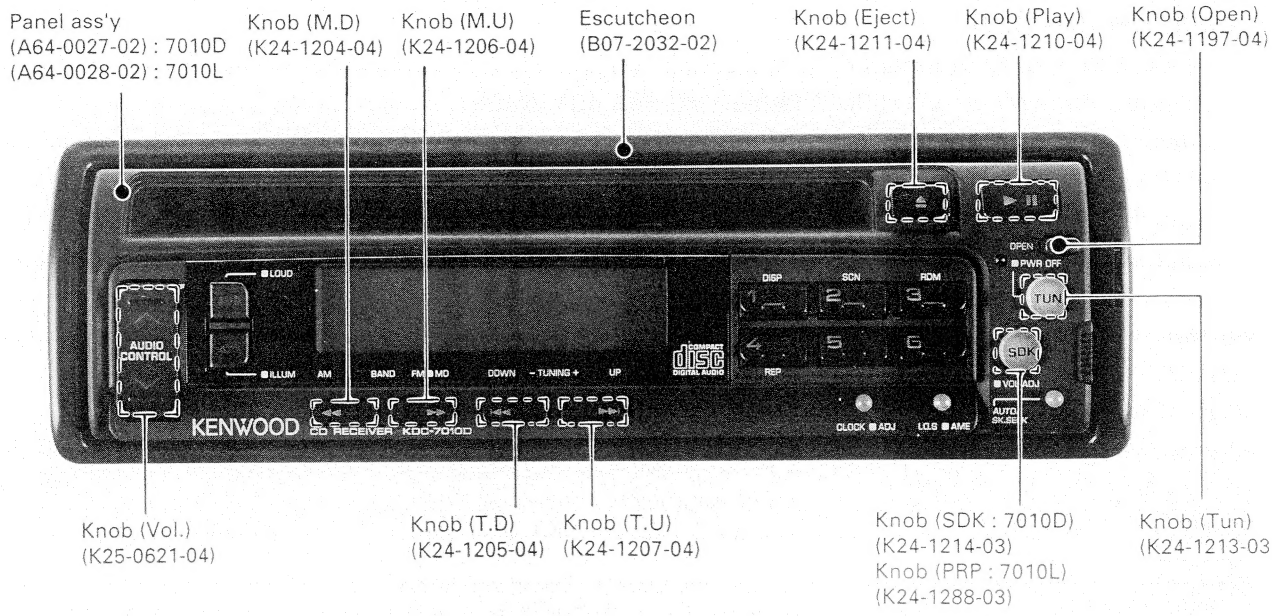
CD RECEIVER

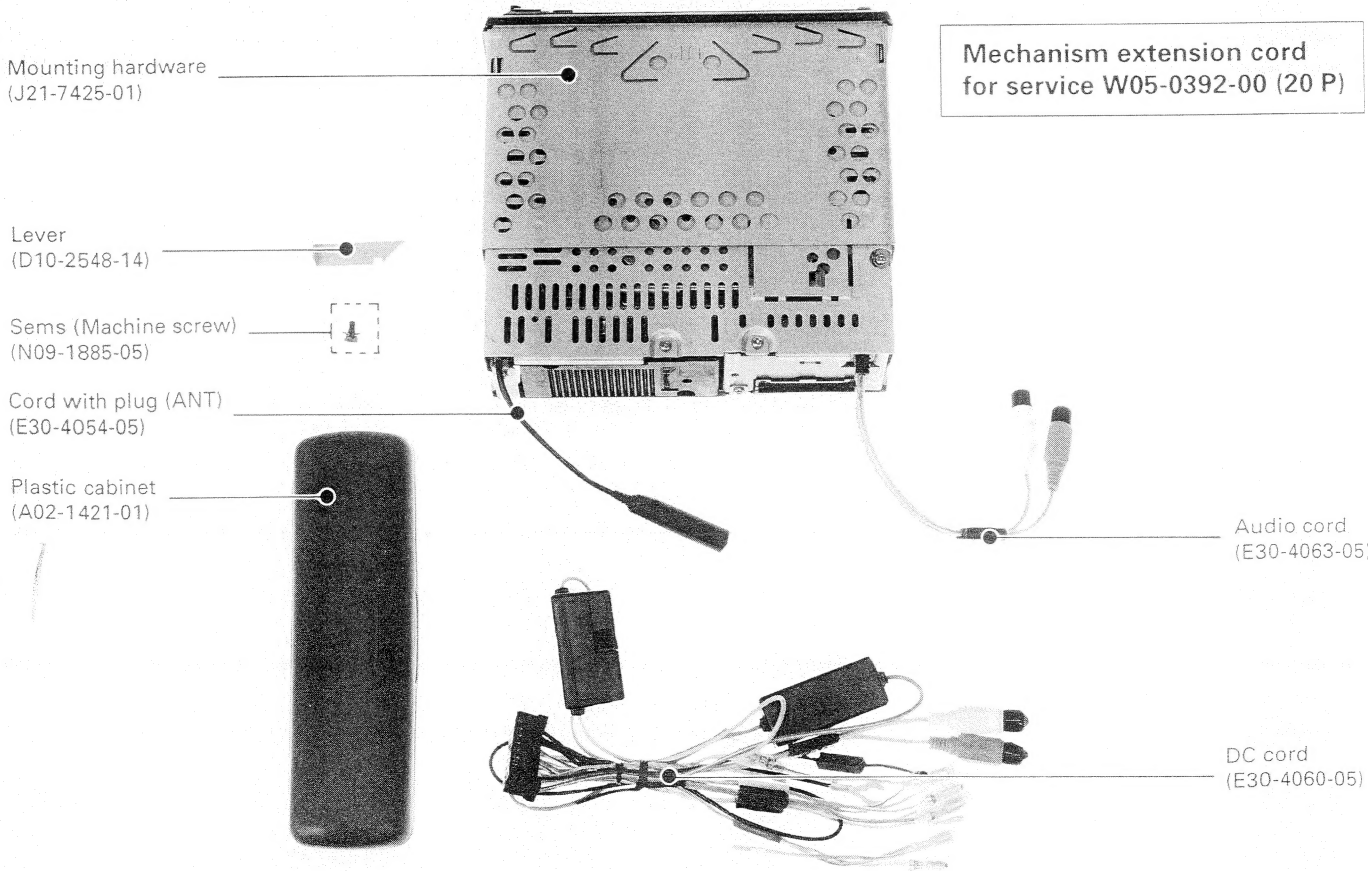
KDC-7010D/L

SERVICE MANUAL

KENWOOD

© 1993-2 PRINTED IN JAPAN
B51-6566-00 (O) 2050





Mechanism extension cord
for service W05-0392-00 (20 P)

*Refer to parts list on page 66.

OPTION (TDF-7010D, TDF-7010L)

CONTENTS

CONTENTS

TROUBLE SHOOTING 3
INSTALLATION / CONNECTION 4
DISASSEMBLY FOR REPAIR 5
BLOCK DIAGRAM 7
CIRCUIT DESCRIPTION
1. Description of Components 8
2. System Control μ-com : μPD75116GF-G49-3BE (IC1, X25-) 11
3. Panel μ-com : μPD75004BG-863-3B4 (IC1, X13-) 14
4. RF Amp / Servo : TA8191F (IC1, X32-) 16
5. Signal Processor : TC9236AF (IC2, X32-) 18
6. Mechanism μ-com : 75008GB-696-3B4 (IC6, X32-) 21
7. D/A Converter : SM5871AS (IC7, X32-) 25
MECHANISM OPERATION DESCRIPTION 27
ADJUSTMENT (MECHANISM) 38
ADJUSTMENT 41
PC BOARD (COMPONENT SIDE VIEW) 43, 44, 47, 48
PC BOARD (FOIL SIDE VIEW) 45, 46, 49, 50
SCHEMATIC DIAGRAM 51
EXPLODED VIEW
MECHANISM 62, 63
UNIT 64, 65
PARTS LIST 66
SPECIFICATIONS ..... BACK COVER

TROUBLE SHOOTING

Often, what appears to be a malfunction is due to user error. Before calling for service, please consult the following table.

Symptom	Cause	Remedy
Compact disc cannot be inserted.	A compact disc has already been inserted and you are trying to inserted another disc.	Eject the previously inserted disc and insert another one.
A disc is ejected immediately after being inserted.	1. The compact disc is inserted upside down. 2. The compact disc is very dirty.	1. Insert the disc with the labeled side facing up. 2. Clean the disc (refer to "Cleaning of compact disc").
Even when the required track is specified, the specified track is not played or the player does not function.	The player is set to RANDOM PLAY.	Release RANDOM PLAY.
Sound is skipped by vibrations.	1. The compact disc is dirty or damaged. 2. The unit is not installed securely.	1. If the sound skips even while the car is stationary, clean the compact disc (refer to "Cleaning of compact disc"). 2. Install the unit securely.
The sound quality is poor due to noise during playback.	1. The compact disc is damaged or dirty. 2. The sound recorded in the compact disc itself is poor.	1. Clean the compact disc (refer to "Cleaning of compact disc"). 2. Try playing another compact disc. If its sound quality is good, the poor sound was due to the disc itself.
No sound one channel.	The balance/fader control is extremely rotated to one side.	Adjust the balance/fader control.
Poor reception.	The antenna is not extended.	Extend the antenna.
Operation switches do not function.	Correct operation is not obtained due to a sudden change in the power voltage, etc.	Press the Reset button of the front panel.

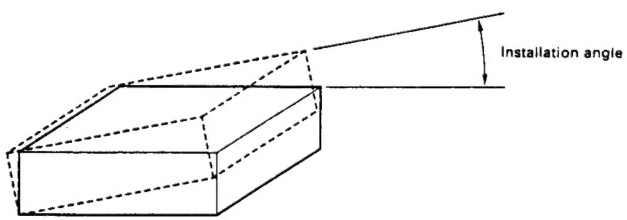
INSTALLATION PROCEDURE

⚠CAUTION

- A short circuit may cause a blown fuse. A short circuit is a serious problem that could also cause a fire. Check the wiring carefully and, if any wires are short-circuited, rewire immediately. If no short-circuits are found, replace the fuse with one having the same rating (see indication in fuse box).
- Check that no unconnected wires or connectors are in contact with the body of the car. Extraneous noise or current entering the system can cause malfunction or damage.
- To provide more power, this product is equipped with a BTL (Balanced Transformer Less) system. But in this type of system, sharing different speaker terminals or connecting or grounding speaker terminals to the car can cause distortion or damage.

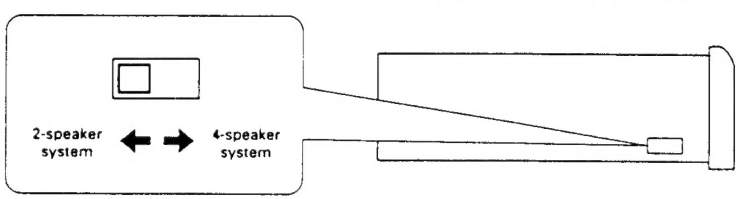
■ Installation Angle

This unit must be installed at an angle of less than 30° from the horizontal.

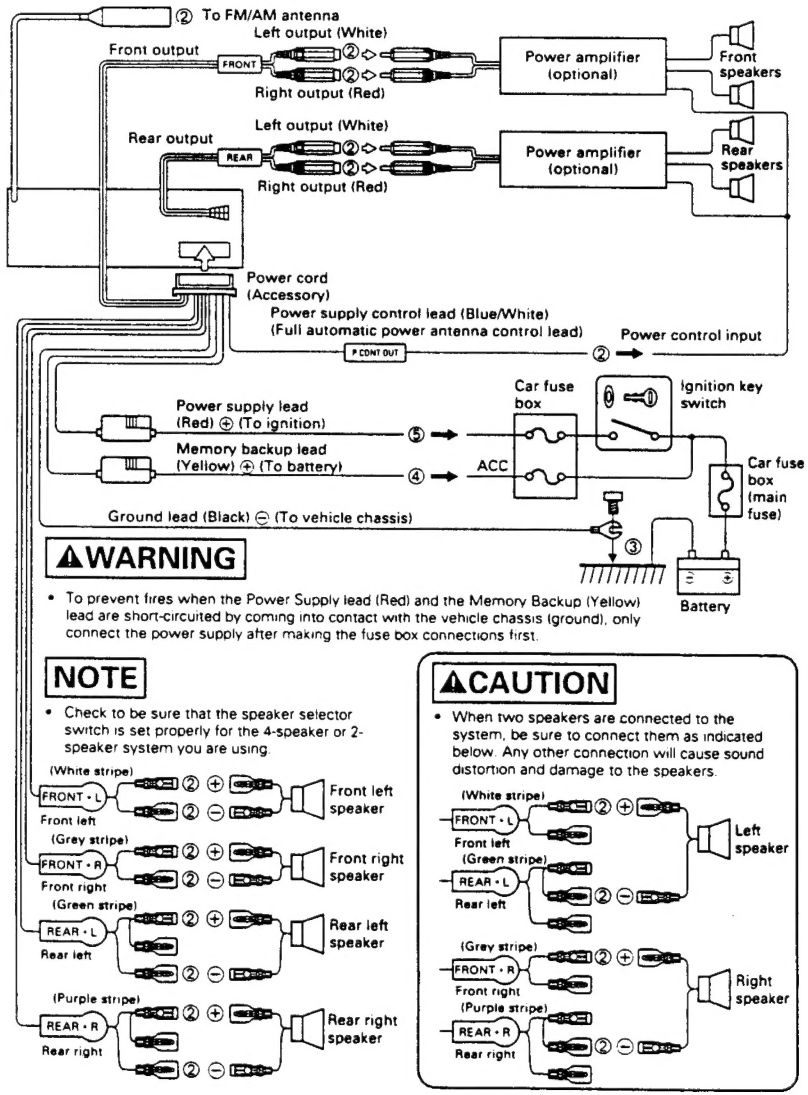


■ Speaker output selector switch.

Set the selector switch on the bottom plate according to the speaker system used.



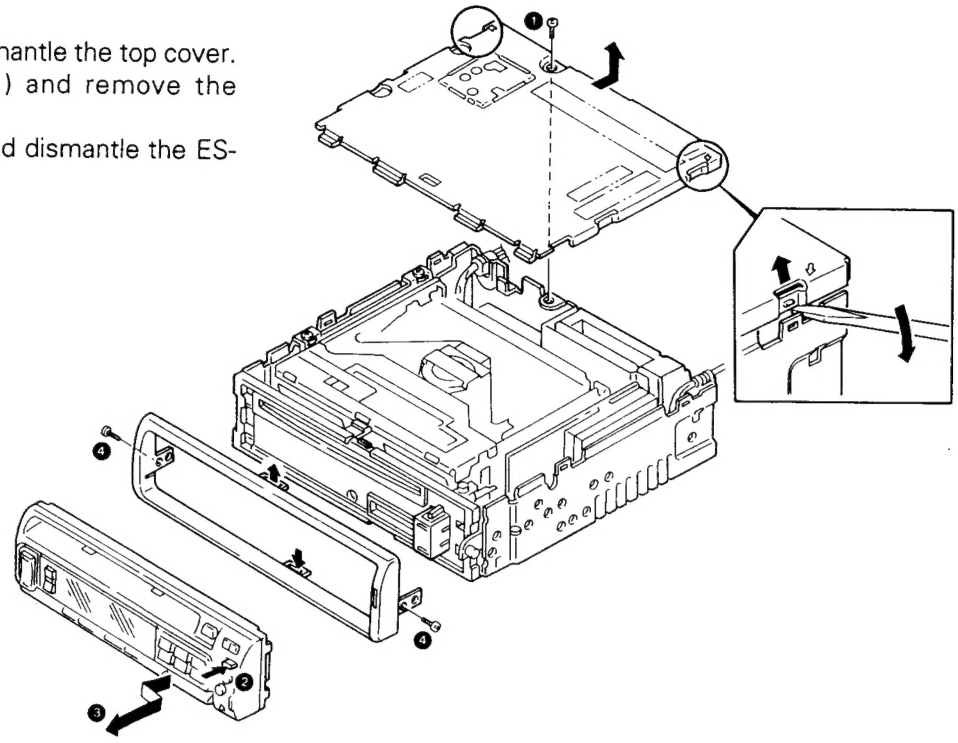
CONNECTIONS



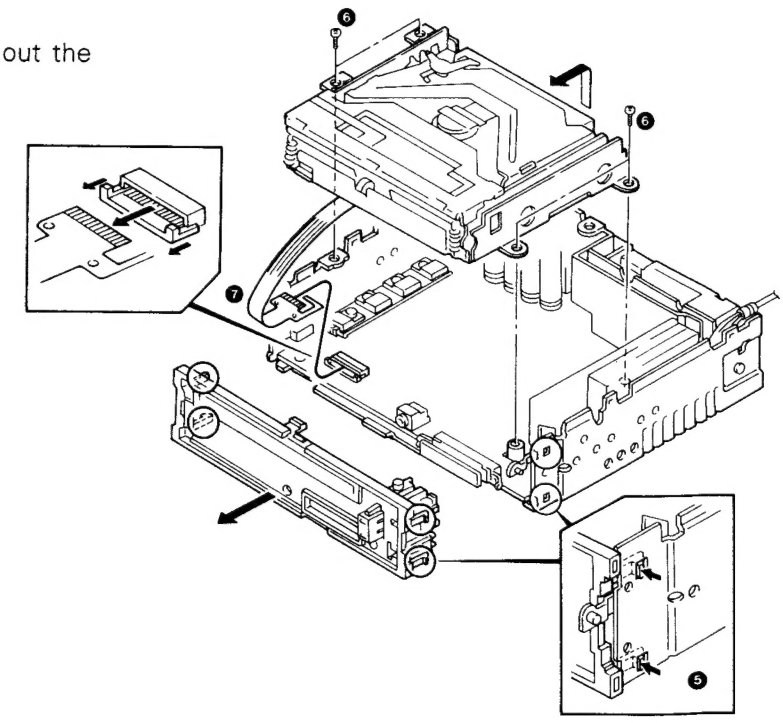
DISASSEMBLY FOR REPAIR

How to Disassemble

1. Remove a screw (❶) and dismantle the top cover.
2. Push the OPEN button (❷) and remove the PANEL ass'y (❸).
3. Remove the 2 screws (❹) and dismantle the ESCUTCHEON.

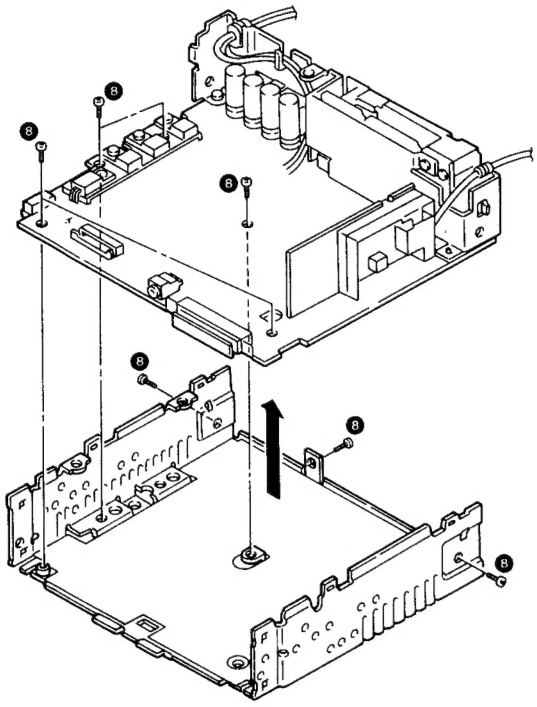


4. Disengage the 4 claws (❺) and remove SUB PANEL.
5. Remove the 4 screws (❻).
6. Disconnect the connector (❼) and take out the MECHANISM ass'y.

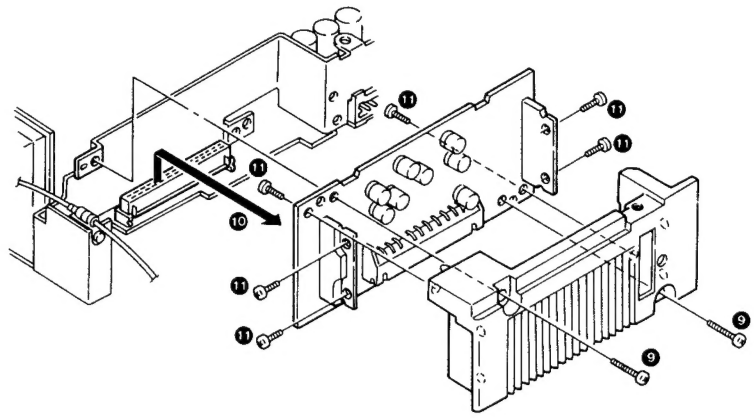


DISASSEMBLY FOR REPAIR

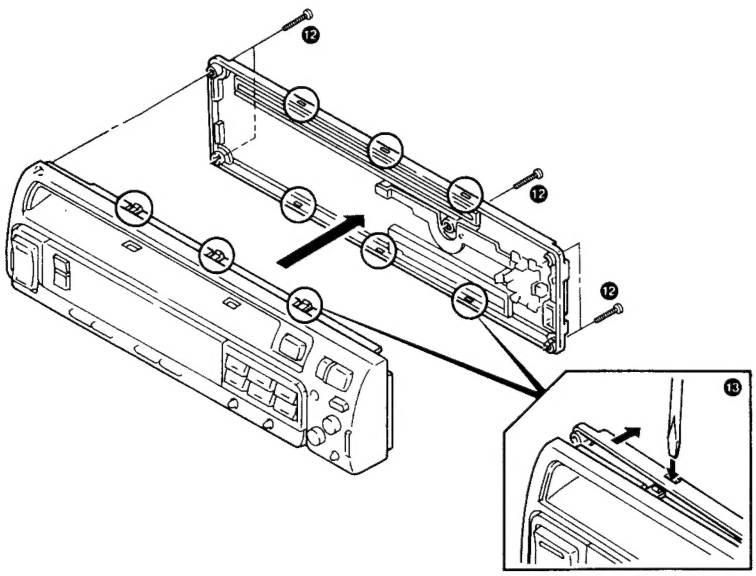
7. Remove the 7 screws (⑧) and dismantle the PCB ass'y.



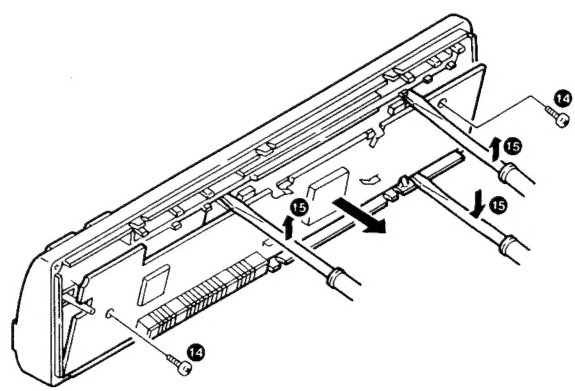
8. Remove the 8 screws (⑨ , ⑩ , ⑪) and dismantle the HEAT SINK.



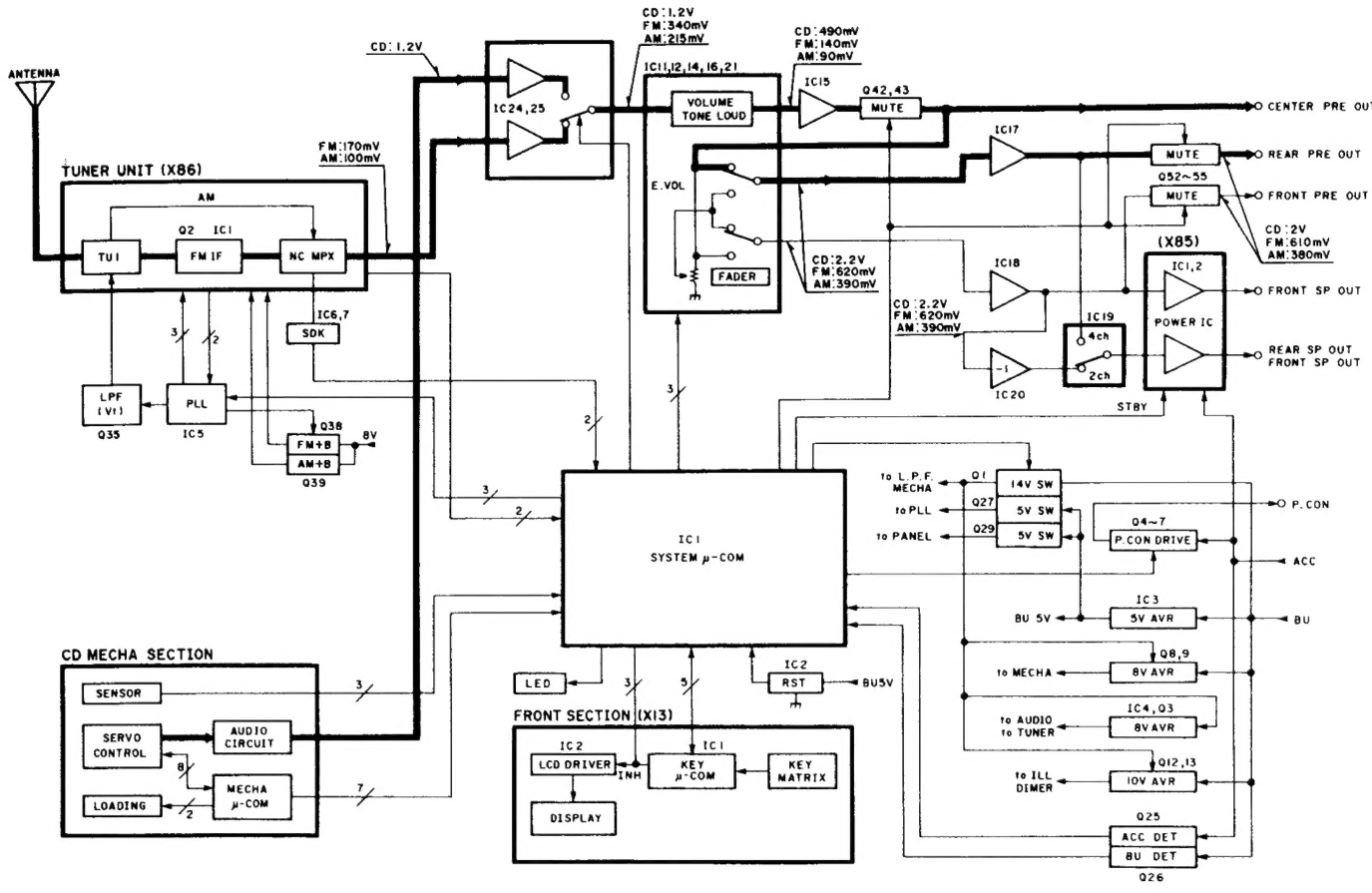
9. Remove the 5 screws (⑫) and remove the REAR cover (⑬).



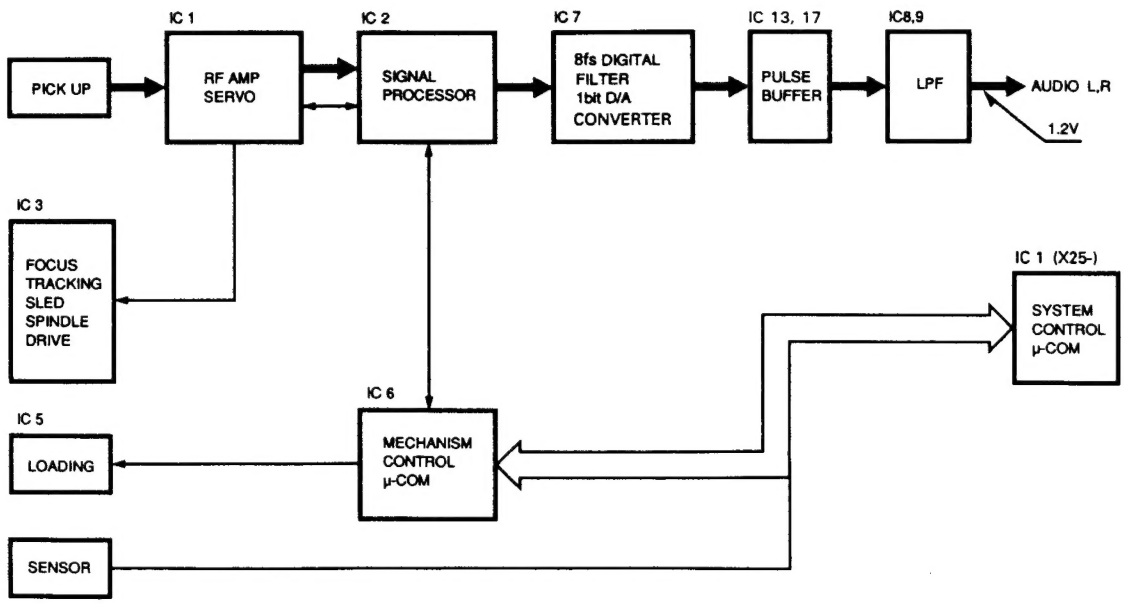
10. Remove the 2 screws (⑭) and dismantle the PCB ass'y (⑮).



BLOCK DIAGRAM



CD mechanism



CIRCUIT DESCRIPTION

1. Description of Components

1-1. SWITCH UNIT (X13-8520-10)

Ref No.	Use and Function	Operation and Condition
IC1	Key μ-COM	Key input, data communications.
IC2	LCD driver	Drives LCD.
Q2	Q1 driver	ON while P-STOP is "H".
D1~D8	Clamping diodes	Data line protection.
D9~D29	Light emitting diodes	Back lighting of keys.

1-2. ELECTRIC UNIT (X25-7022-XX) -71 : KDC-7010D, -72 : KDC-7010L

Ref No.	Use and Function	Operation and Condition
IC1	System μ-COM	Controller
IC2	Reset IC	Prevention of system controller malfunction.
IC3	5 V 3-pin regulator	5 V power supply for μ-COM, digital circuitry and mechanism servo. (3-pin IC with low current drain. General products cannot be used.)
IC4	AVR driver	8 V AVR.
IC5	PLL	Also switches FM +B, AM +B, AGC (AFC), LO/DX and LW/MW at the output ports.
IC6	SDK IC	SDK demodulation.
IC7	SDK circuit	Composite signal buffer and BPF.
IC10	1/2 Vcc buffer	Outputs 1/2 of 8 V for use as the reference voltage of audio circuitry.
IC11, IC12	Tone amp, simulated inductor	Tone boosting and cutting. Forms the inductor of treble circuit.
IC14	Simulated inductor	Forms the inductor of bass circuit.
IC15	Fader buffer	Voltage-follower.
IC16	Volume buffer	Voltage-follower.
IC17, IC18	Pre-amp	Pre-amplifier and power amplifier input.
IC19	Analog SW (2CH/4CH switching)	In 2CH operation, switches to the front signal inverted by IC20. In 4CH operation, switches to the rear signal.
IC20	Inverter amp	In 2CH operation, functions as the inverter amp to send the inverted front signal to the power amp input.
IC21	Electronic volume/tone IC	Tone, loudness, volume, balance and fader control.
IC24, IC25	CD/TUNER SW	Switched signals between CD and tuner. Also determines the level distribution between CD and tuner.
Q1	Switches	14.4 V in interlocked operation with P-ON of μ-COM.
Q2	SW 14V ON/OFF	Turns Q2 ON/OFF.
Q3	AVR	8 V output.
Q4	P-CON	P-CON/P-ANT driver.
Q5,6	P-CON	P-CON protection.
Q7	P-CON ON/OFF	Turns Q4 ON/OFF.
Q8, Q9	Servo +B AVR	7.6 V servo power output.
Q12, Q13	Illumination AVR	10.5 V illumination power output.
Q16, Q17	Illumination SW	Switches between amber and green. (With the KDC-7000, 7100, 7010D and 7010L, Q16 and 17 also act to turn the illumination ON/OFF.)
Q21, Q22	Reset	When RESET SW on the panel is pressed, resets μ-COM by setting its RESET terminal to "L".
Q23	Reset muting	When RESET SW on the panel is pressed, turns Q41 ON to mute sound to prevent shock noise.

CIRCUIT DESCRIPTION

Ref No.	Use and Function	Operation and Condition
Q24	Amp standby	Turns ON/OFF the standby terminal of the power IC for built-in amps.
Q25	Acc detect	Collector goes "L" when Acc is switched ON.
Q26, Q48	BU detect	Collector is "L" except during reduced-power operation with BU power connected.
Q27	SW 5 V	Switches 5 V in interlocked operation with SW 5 V of μ-COM.
Q28	MONO/ST SW	When forced mono operation is turned ON, switches the tuner IC for monaural reception.
Q29	Panel 5 V	Switches the 5 V power for panel μ-COM in interlocked operation with PAN-CON of μ-COM. Turned ON when the panel is attached.
Q30	Panel SW	Detects whether the panel is attached or not. Collector goes "H" when the panel is attached.
Q31	FM SD output detect	"L" during reception.
Q32	AM SD output detect	"L" during reception
Q33	FM muting output	Inhibits the S meter output when FM muting is output.
Q34	FM S meter buffer	Emitter-follower.
Q35	LPF	Used for both FM/AM.
Q36	AFC SW	Collector goes "L" during seek.
Q37	LW/MW SW	Collector is "H" during MW reception.
Q38	FM + B ON/OFF	ON in FM mode.
Q39	AM + B ON/OFF	ON in AM mode.
Q40	FM muting output	Sets SK "L" when FM muting is output.
Q41	Muting driver	Collector is "H" when muting is turned ON.
Q42, Q43	Muting	Audio muting. Muting of built-in amps is applied only with Q42 and Q43.
Q46	Panel reset	When the panel is attached, sends reset pulse "L" to panel μ-COM.
Q47	2CH/4CH SW	Analog switch control. Collector is "H" during 2CH operation.
Q49	Momentary power-failure muting	In case of momentary power failure, turns Q41 ON to apply muting to prevent shock noise.
Q52~Q55	Muting	Audio muting of pre-out signals.
D1, D2	Inverse connection protect	Protection diode to prevent reverse current flow to GND in case of inverse connection of BU with D1 or Acc with D2.
D3	Reverse flow prevention	To prepare for the case in which the receiving side of P-ANT has a capacitance.
D4	Discharge	Discharges C24 to release P-CON protection.
D5	Reverse flow prevention	Prevents reverse flow to prevent 5 V power from dropping in case of momentary power failure.
D6	Reference voltage	Reference voltage for servo +B AVR.
D7	Reference voltage	Reference voltage for illumination +B AVR.
D8	LED	Flashes when the panel is detached or the simulated security function is activated.
D9	Constant voltage	Constant voltage for power to LPF.
D10	Level shift	Sets the Acc detection threshold level.
D11	Discharge	Discharges C17 to provide a difference in the time constant for turning detection ON/OFF.
D12	Level shift	Sets the BU detection threshold level.
D13	Discharge	Discharges C18 to provide a difference in the time constant for turning detection ON/OFF.
D14	Static protection	Protects static electricity from applying reset.
D15~D22	Static protection	Protect μ-COM from malfunctioning due to static electricity generated on the panel connector pins when the panel is detached.
D23	Temperature compensation	Temperature compensation for SD detection (AM).
D24, D27 D28	Leakage prevention	Prevention against current leaked at the base of the muting transistor.

CIRCUIT DESCRIPTION

1-3. CD PLAYER UNIT (X32-2340-00)

Ref No.	Dvice	Use and Function	Operation and Condition
IC1	TA8191F	RF amp	RF signal generation, focusing & tracking servo.
IC2	TC9236AF	Signal processor	EFM demodulation, error detection & correction, audio data output, disc motor servo focusing & tracking servo control, search control.
IC3	AN8388SR	Actuator driver	Drives focusing, tracking, sled, spindle and actuator.
IC5	TA7291F	Motor drive	Loading and ejection control.
IC6	7500GB-696-3B4	μ-com	CD mechanism control.
IC7	SM5871AS	D/A converter	1-bit digital to analog converter.
IC8, IC9	NJM5532MD	Low-pass filter	
IC11	TA78L05F	3-terminal regulator	Generates +5V for audio circuitry.
IC12, IC16	TC7SU04F	Inverter	Inverts LRCK.
IC13, IC17	TC74C04F	Inverter	Audio pulse output buffer.
Q1	2SB624 (BV3)	Laser power control	
Q2	2SA1037K	Temperature detector	
Q3	DTC124EK	Spindle gain SW	ON with 8cm disc, OFF with 12cm disc.
Q4	2SC2412K	Focusing error hold	Upon detection of scratch, goes ON to hold focusing error.
Q5	DTA124EK	Scratch detect pulse	Level conversion of disc scratch detection pulse.
Q7	DTC114YK	Gain SW	Switches low-frequency gain of tracking servo between play and search modes.
Q8	DTC114YK	Logic inverter	Inverts μ-com output logic control Q7.
Q9	2SA1037K	Reference potential generation	Generates 4.2V in collaboration with TA8191F.
Q10	2SC2412K	Gain SW	Controls high-frequency gain of tracking servo.
Q11	DTC114YK	Gain SW	Reduces tracking servo upon detection of scratch.
Q12	DTC124EK	Clock SW	Turns 16MHz master clock ON/OFF.
Q13	2SA1362 (Y)	+5V SW	Turns +5V for servo/digital circuitry ON/OFF.
Q14	2SD1624	Regulator	Generates +9V for audio circuitry.
Q15	DTA124EK	Audio muting control	Drives Q16 and Q17 based on level conversion of muting signal from μ-com.
Q16, Q17	2SD1757K	Audio muting	
Q18	DTC124EK	PLL control	Upon detection of scratch, sets PLL phase comparator output to Hi-Z.
Q19	DTC124EK	D/A reset	Releases reset of D/A convertor in synchronism with the rise of master clock.
Q20	DTC124EK	Emphasis SW	Inverts the logic of emphasis control output from IC2.

1-4. POWER AMP UNIT (X85-3000-10)

Ref No.	Use and Function	Operation and Condition
IC1, IC2	Power amp	

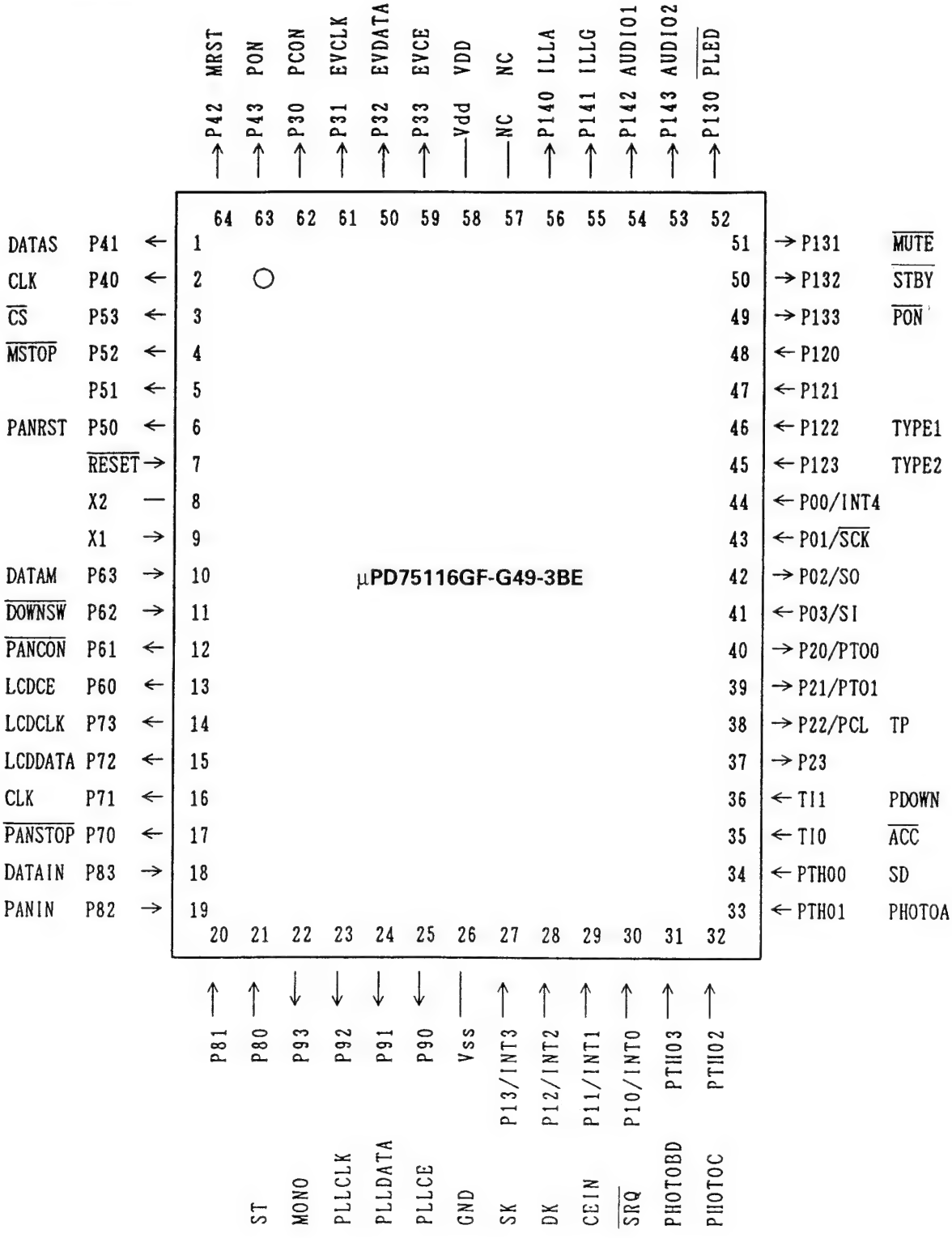
1-5. TUNER UNIT (X86-3012-XX) -71 : KDC-7010D, -72 : KDC-7010L

Ref No.	Use and Function	Operation and Condition
IC1	FM processor	
Q1	LOCAL/DX SW	ON for local seek.
Q3	1st-stage AM AGC	ON during seek.
Q4	2nd-stage AM AGC	Q4 is turned ON when Q3 goes ON.
Q5	Muting	ON during tuner reception

CIRCUIT DESCRIPTION

2. System Control μ-com : μPD75116GF-G49-3BE (IC1, X25-)

2-1. Pin connection



CIRCUIT DESCRIPTION

2-2. Pin function

Pin No.	Name	Also Used As	I/O	Signal name	Function
1	P41		O	DATAS	Serial data output to CD mechanism controller.
2	P40		O	CLK	Synchronization clock for communications with CD mechanism controller.
3	P53		O	$\overline{CS}$	Handshake request to CD mechanism controller. "L" for requesting.
4	P52		O	$\overline{MSTOP}$	CD mechanism controller stop output. "L" for stop.
5	P51		O		Not used. Open.
6	P50		O	PANRST	Panel μ-COM reset output. "H" for reset.
7	$\overline{RESET}$		I	$\overline{RESET}$	μ-COM system reset input. "L" when reset.
8	X2		–	Xtal	4.19 MHz oscillator connection terminal.
9	X1		I	Xtal	4.19 MHz oscillator connection terminal.
10	P63		I	DATAM	Serial data input from CD mechanism controller.
11	P62		I	$\overline{DOWNSW}$	DOWN switch input from CD mechanism controller. "L" when down.
12	P61		O	$\overline{PANCON}$	Panel power supply control output. "L" for ON.
13	P60		O	LCDCE	Chip Enable output to LCD driver.
14	P73		O	LCDCLK	Serial sync clock to LCD driver.
15	P72		O	LCDDATA	Serial data output to LCD driver.
16	P71		O	CLK	Sync clock output to panel μ-COM.
17	P70		O	$\overline{PANSTOP}$	Stop output to panel μ-COM. "L" for stop.
18	P83		I	DATAIN	Key data input from panel μ-COM.
19	P82		I	PANIN	Panel attaching detection input. "H" when attached, "L" when detached.
20	P81		I		Not used. Connected to GND.
21	P80		I	ST	Stereo input. "H" for stereo.
22	P93		O	MONO	Forced mono output. "H" for monaural.
23	P92		O	PLLCLK	Sync clock output to PLL IC.
24	P91		O	PLLDATA	Serial data output to PLL IC.
25	P90		O	PLLCE	Chip Enable to PLL IC.
26	Vss		–	GND	Connected to GND.
27	P13	INT3	I	SK	SK input. "H" for SK present (D type only).
28	P12	INT2	I	DK	SK input. "H" for DK present (D type only).
29	P11	INT1	I	CEIN	Key data send request input from panel μ-COM. ⌐↑ (positive going) for requesting.
30	P10	INT0	I	$\overline{SRQ}$	Handshake request from CD mechanism controller. ↓⌐ (negative going) for requesting.
31	PTH03		I	PHOTOBD	Photosensor input "BD" from CD mechanism controller. "H" when photo-sensor is blocked.
32	PTH02		I	PHOTOC	Photosensor input "C" from CD mechanism controller. "H" when photo-sensor is blocked.
33	PTH01		I	PHOTOA	Photosensor input "A" from CD mechanism controller. "H" when photo-sensor is blocked.
34	PTH00		I	SD	Station detection input. "H" when station is detected.
35	TI0		I	$\overline{Acc}$	Acc detection input. "L" when Acc is ON, "H" when Acc is OFF.
36	TI1		I	PDOWN	Reduced power detection input BU voltage monitoring. "H" when power is reduced.
37	P23		O		Not used.
38	P22	PCL	O	TP	Clock adjustment test point output. 524 kHz output.
39	P21	PTO1	O		Not used.
40	P20	PTO3	O		Not used.

CIRCUIT DESCRIPTION

Pin No.	Name	Also Used As	I/O	Signal name	Function
41	P03	SI	I		Not used.
42	P02	SO	O		Not used.
43	P01	$\overline{SCK}$	I		Not used.
44	P00	INT4	I		Not used.
45	P123		I	TYPE2	Destination setting 2.
46	P122		I	TYPE1	Destinations setting 1.
47	P121		I		Not used.
48	P120		I		Not used.
49	P133		O	$\overline{PON}$	5 V power control. "L" for ON.
50	P132		O	$\overline{STBY}$	Not used. Open.
51	P131		O	$\overline{MUTE}$	Muting output. "L" for ON.
52	P130		O	$\overline{PLED}$	Panel detached alarm LED output. "L" for ON.
53	P143		O	AUDIO2	Audio source selection 2.
54	P142		O	AUDIO1	Audio source selection 1.
55	P141		O	ILLG	Illumination (green). "L" for ON.
56	P140		O	ILLA	Illumination (amber), "L" for ON.
57	NC		–	–	Connected to +5 V.
58	V_{DD}		–	V_{DD}	+5 V power supply terminal.
59	P33		O	EVCE	Chip Enable output to electronic volume IC.
60	P32		O	EVDATA	Serial data output to electronic volume IC.
61	P31		O	EVCLK	Sync clock output to electronic volume IC.
62	P30		O	PCON	Power control output. "H" for ON.
63	P43		O	PON	Power ON (+14 V line) control output. "H" for ON.
64	P42		O	MRST	Reset output to CD mechanism controller. "L" for reset.

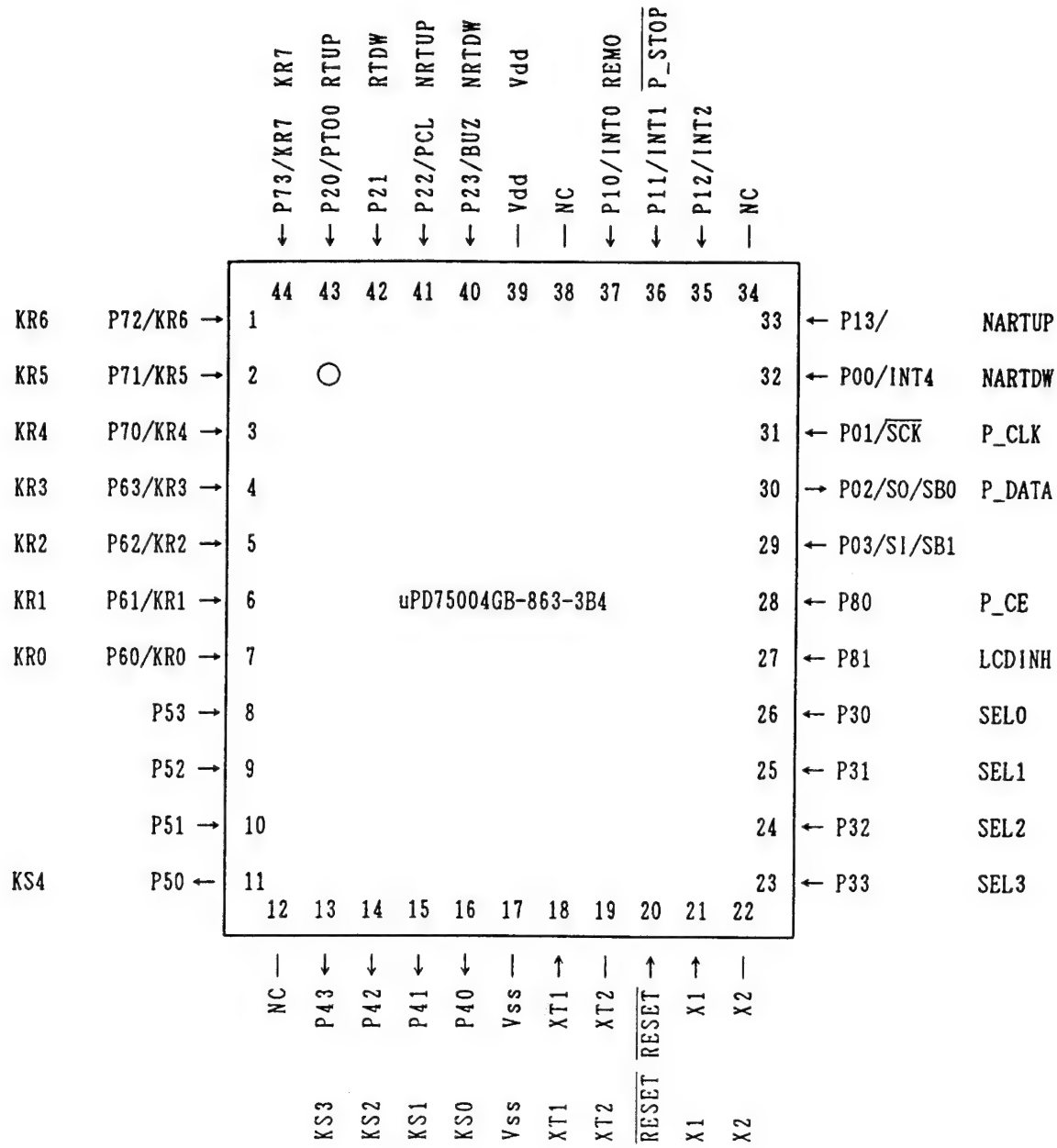
2-3. Destination setting

Model	TYPE1 (pin 46)	TYPE2 (pin 45)
KDC-7010D	H	H
KDC-7010L	H	L

CIRCUIT DESCRIPTION

3. Panel μ-com : μPD75004GB-863-3B4 (IC1, X13-)

3-1. Pin connection



CIRCUIT DESCRIPTION

3-2. Pin function

Pin No.	Name	Also Used As	I/O	Signal name	Function
1	P72	KR6	I	KR6	Key return 6. Not used.
2	P71	KR5	I	KR5	Key return 5. Not used.
3	P70	KR4	I	KR4	Key return 4.
4~7	P63~P60	KR3~KR0	I	KR3~KR0	Key return 3~0.
8~10	P53~P51		I	–	Not used. Connected to +5 V.
11	P50		O	KS4	Key scan 4.
12	NC		–		
13~16	P43~P40		O	KS3~KS0	Key scan 3~0.
17	Vss		–	Vss	Connected to GND.
18	XT1		I	XT1	Connected to GND.
19	XT2		–	XT2	Open.
20	$\overline{\text{RESET}}$		I	$\overline{\text{RESET}}$	µ-COM reset input.
21	X1		I	X1	4.19 MHz oscillator connection terminal.
22	X2		–	X2	4.19 MHz oscillator connection terminal.
23	P32		I	SEL3	Function selection check terminal. Connected to "L".
24~26	P33~P30		I	SEL2~SEL0	Function selection check terminal. Connected to "H".
27	P81		I	LCDINH	LCD driver inhibit.
28	P80		I	P-CE	Key data transfer request output.
29	P03	SI/SB1	I	–	Not used. Connected to GND.
30	P02	SO/SB0	O	P-DATA	Key data output.
31	P01	$\overline{\text{SCK}}$	I	P-CLK	Key data sync clock output.
32	P00	INT4	I	NARTDW	Not used. Connected to GND.
33	P13	TI0	I	NARTUP	Not used. Connected to GND.
35	P12	INT2	I	–	Not used. Connected to GND.
36	P11	INT1	I	$\overline{\text{P-STOP}}$	Stop input. "L" to stop.
37	P10	INT0	I	REMO	Remote control input.
38	NC		–		Not used. Connected to +5 V.
39	VDD		–	VDD	+5 V power supply terminal.
40	P23	BUZ	I	NRTDW	Not used. Connected to GND.
41	P22	PCL	I	NRTUP	Not used. Connected to GND.
42	P21		I	RTDW	Not used. Connected to GND.
43	P20	PTO0	I	RTUP	Not used. Connected to GND.
44	P73	KR7	I	KR7	Key return 7. Not used.

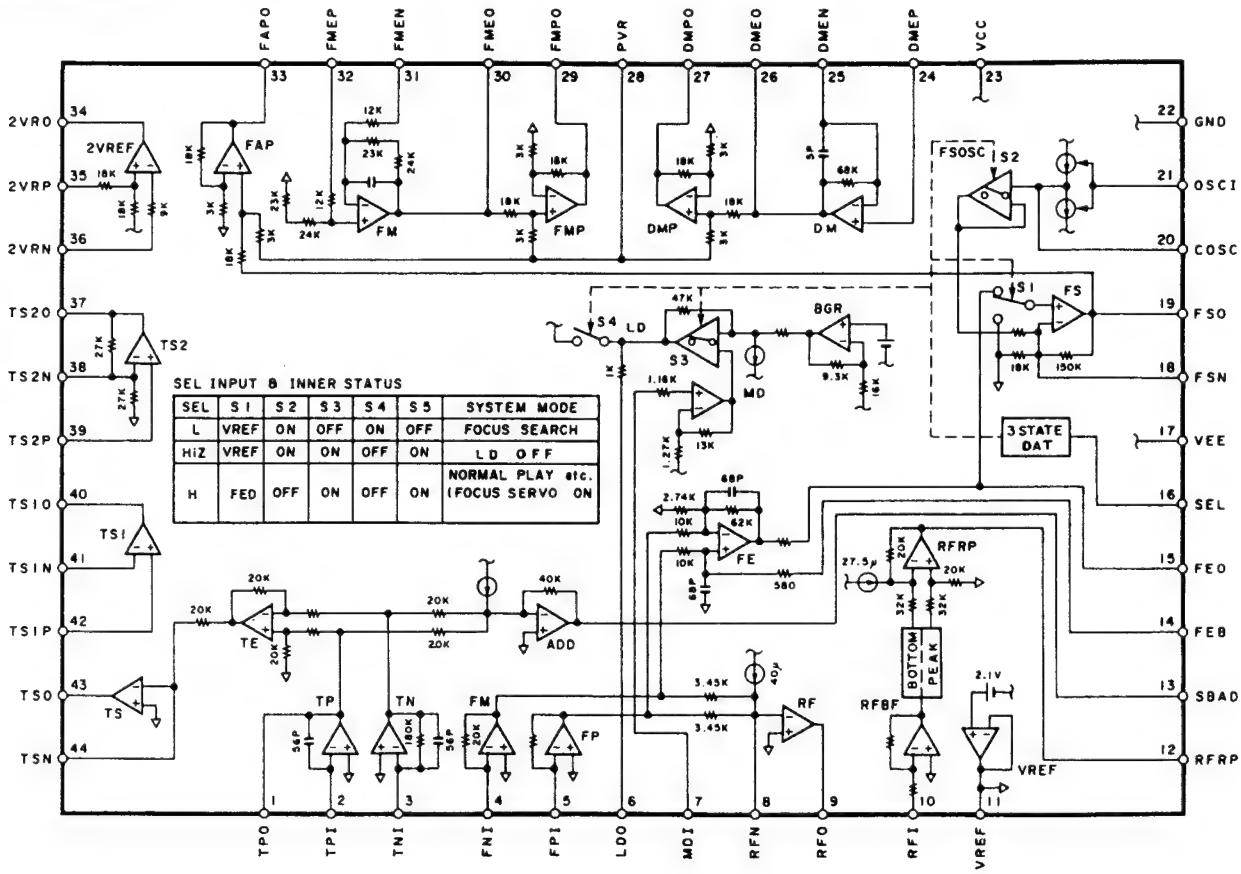
3-3. Key matrix

Key Scan / Key Return	KS4	KS3	KS2	KS1	KS0
KR0	TUNER ■ PWR	ATT ■ ILL	◀◀ AM	AUTO	PRESET [1]
KR1	EJECT ▲	-	FM ▶▶	LOCAL. S ■ AME	PRESET [2]
KR2	-	AUDIO ■ LOUD	⏮ DOWN	CLOCK	PRESET [3]
KR3	CD ▶II	V. UP ∧	UP ⏭	PRP/SDK	PRESET [4]
KR4	-	V. DOWN ∨	PRESET [6]	-	PRESET [5]

CIRCUIT DESCRIPTION

4. RF Amp/Servo : TA8191F (IC1, X32-)

4-1. Block diagram



4-2. Pin function

Pin No.	Symbol	I/O	Function	Remark
1	TPO	O	Sub-beam I-V amp (TP AMP) output terminal.	Connected to TPI via adjustment feedback resistor.
2	TPI	I	Sub-beam I-V amp (TP AMP) input terminal.	Connected to PIN diode F.
3	TNI	I	Sub-beam I-V amp (TN AMP) input terminal.	Connected to PIN diode E.
4	FNI	I	Main beam I-V amp (FN AMP) input terminal.	Connected to PIN diode A + C.
5	FPI	I	Main beam I-V amp (FP AMP) input terminal.	Connected to PIN diode B + D.
6	LDO	O	Laser diode amp (LD AMP) output terminal.	Connected to laser diode circuit.
7	HDI	I	Monitor photodiode amp (MP AMP) input terminal.	Connected to monitor photodiode.
8	RFN	I	RF amp (RF AMP) inverted input terminal.	Connected to RFO via feedback resistor.
9	RFO	O	RF amp (RF AMP) output terminal.	
10	RFI	I	RF ripple signal generator input terminal.	Connected to RFO via CR.
11	VREF	O	Reference voltage output terminal (+2.1V).	
12	RFRP	O	RF ripple signal output terminal.	
13	SBAD	O	Scratch detect signal output terminal.	
14	FEB	I	Focusing error balance adjustment input terminal.	Semi-fixed resistor for adjustment is connected.
15	FEO	O	Focusing error amp (FE AMP) output terminal.	Resistor for gain adjustment is connected.
16	SEL	I	Analog switch control signal input terminal.	
17	VEE	–	Power supply terminal.	Connected to GND.
18	FSN	I	Focus output amp (FS AMP) inverted input terminal.	Connected to FSO via feedback CR.
19	FSO	O	Focus output amp (FS AMP) output terminal.	
20	COSC	O	Capasitor connection terminal for focus search signal generation.	CR are connected.

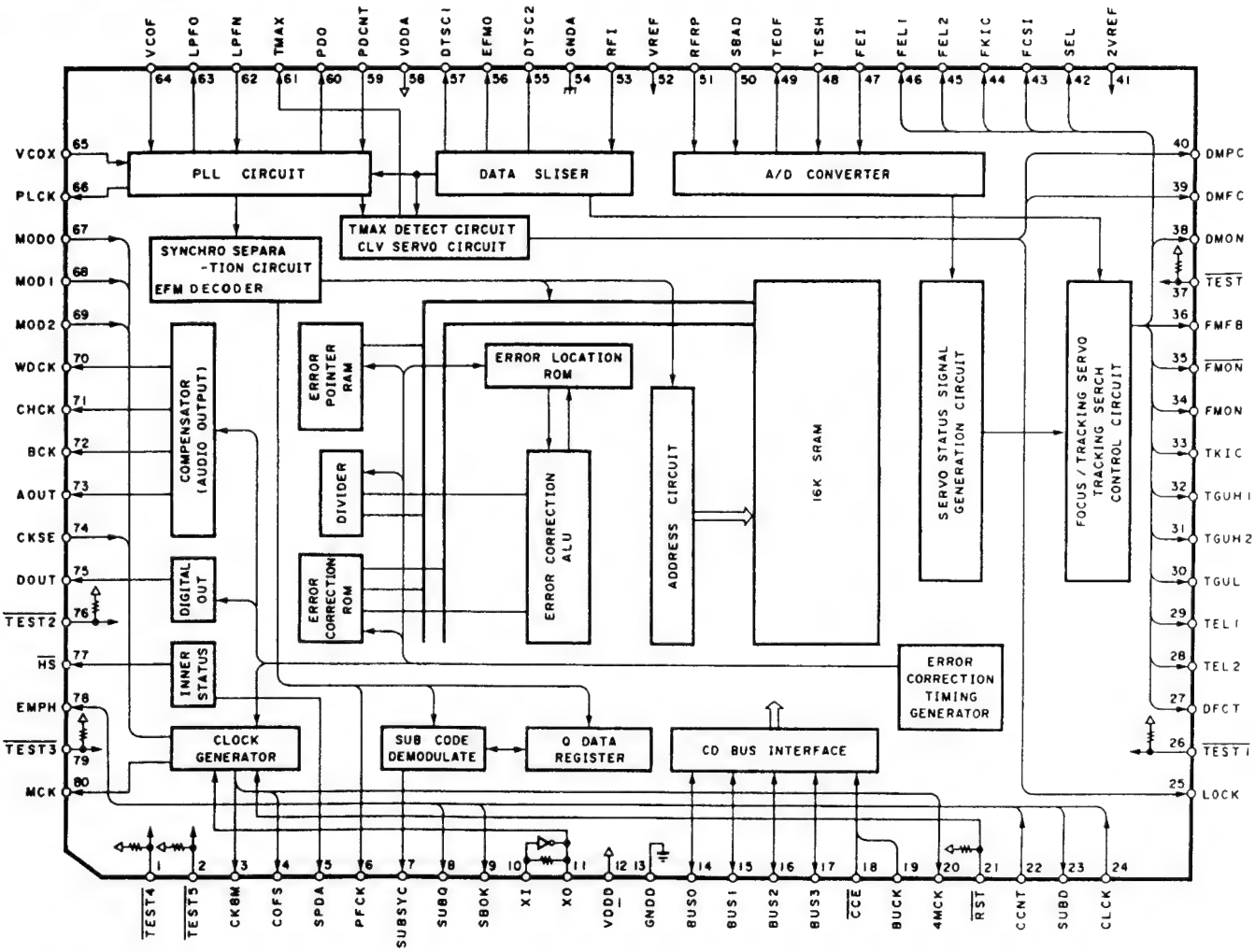
CIRCUIT DESCRIPTION

Pin No.	Symbol	I/O	Function	Remark
21	OSCI	I	Built-in current supply control input terminal for focus search signal generation.	
22	GND	–	Ground terminal.	
23	Vcc	–	Power supply terminal (+5V).	
24	DMEP	I	Disc motor amp (DM AMP) input terminal.	
25	DMEN	I	Disc motor amp (DM AMP) inverted input terminal.	
26	DMEO	O	Disc motor amp (DM AMP) output terminal.	
27	DMPO	O	Disc motor drive amp (DM AMP) output terminal.	
28	PVR	I	Drive amp reference voltage input terminal.	Connected to VREF.
29	FMPO	O	Feed motor drive amp (FMP AMP) output terminal.	
30	FMEO	O	Feed motor amp (FM AMP) output terminal.	
31	FMEN	I	Feed motor amp (FM AMP) inverted input terminal.	
32	FMEP	I	Feed motor amp (FM AMP) input terminal.	
33	FAPO	O	Focus actuator drive amp (FMP AMP) output terminal.	
34	2VRO	O	2VREF amp (2VREF AMP) output terminal.	Connected to 2VRP via external output Tr.
35	2VRP	I	2VREF amp (2VREF AMP) input terminal.	
36	2VRN	I	2VREF amp (2VREF AMP) inverted input terminal.	
37	TS2O	O	Tracking servo amp 2 (TS2 AMP) output terminal.	
38	TS2N	I	Tracking servo amp 2 (TS2 AMP) inverted input terminal.	
39	TS2P	I	Tracking servo amp 2 (TS2 AMP) input terminal.	
40	TS1O	O	Tracking servo amp 1 (TS1 AMP) output terminal.	
41	TS1N	I	Tracking servo amp 1 (TS1 AMP) inverted input terminal.	Connected to TS1O via feedback CR.
42	TS1P	I	Tracking servo amp 1 (TS1 AMP) input terminal.	
43	TSO	O	Tracking output amp (TS AMP) output terminal.	
44	TSN	I	Tracking output amp (TS AMP) inverted input terminal.	Connected to TSO via feedback CR.

CIRCUIT DESCRIPTION

5. Signal Processor : TC9236AF (IC2, X32-)

5-1. Block diagram



5-2. Pin function

Pin No.	Symbol	I/O	Function	Remark
1	$\overline{\text{TEST4}}$	I	Test pin. Normally "H" or Open.	With pull-up resistor.
2	$\overline{\text{TEST5}}$	I	Test pin. Normally "H" or Open.	With pull-up resistor.
3	CK8M	O	8M clock output terminal.	
4	COFS	O	Correction frame cycle signal output terminal. 7.35kHz.	
5	SPDA	O	Processor status signal output terminal. Correction processing check result, memory buffer capacity, etc.	
6	PFCK	O	Playback frame cycle signal output terminal. 7.35kHz.	
7	SUBSYC	O	Subcode sync signal output terminal.	
8	SUBQ	O	Subcode Q data output terminal.	
9	SBOK	O	Subcode Q data CRC check result output terminal. "H" when check result is OK.	
10	XI	I	X'tal resonator connection terminals.	
11	XO	O	X'tal resonator connection terminals.	
12	VDDD	–	Digital power supply terminal (+5V).	
13	GNDD	–	Digital grounding terminal.	
14	BUS0	I/O	Command and data send / receive I/O terminals.	Schmitt inputs.
17	BUS3	I/O	Command and data send / receive I/O terminals.	Schmitt inputs.
18	$\overline{\text{CCE}}$	I	Command and data send / receive Chip Enable signal input terminal. "L" for making the bus line active.	

CIRCUIT DESCRIPTION

Pin No.	Symbol	I/O	Function	Remark
19	BUCK	I	Command and data send / receive clock input terminal.	
20	4MCK	O	4M clock output terminal (4.2336MHz).	
21	$\overline{RST}$	I	Reset input terminal. "L" for internal system reset.	With pull-up resistor.
22	CCNT	I	Subcode Q data control bit update inhibit signal input terminal. "H" for inhibiting update.	Emphasis, copy and channel information.
23	SUBD	O	Subcode P – W output terminal.	
24	CLCK	I	Subcode P – W data read clock input terminal.	
25	LOCK	O	Lock status output terminal. Goes "L" when the sync pattern in EFM signal of overrun detection data has not been detected for 17ms.	
26	$\overline{TEST1}$	I	Test pin. Normally "H" or OPEN.	With pull-up resistor.
27	DFCT	O	Defect detect signal output terminal. VREF when detect is detected, HiZ in normal case	
28, 29	TEL2, 1	O	Tracking gain adjustment analog switch output terminals. VREF or HiZ.	
30	TGUL	O	Analog switch output terminal for switching the tracking servo loop phase compensator (low). HiZ (increased gain) when a shock is detected, VREF in normal case.	
31	TGUH2	O	Analog switch output terminal for switching the tracking servo loop phase compensator (medium and high). HiZ (increased gain) when a shock is detected, VREF in normal case. TGUH1 is used in normal-speed playback, and TGUH2 is used in double-speed playback.	
32	TGU1			
33	TKIC	O	Tracking actuator kick signal output terminal. "H" for kicking toward the outer edge. "L" for kicking toward the inner edge.	
34	FMON	O	Analog switch output terminals for switching feed servo ON / OFF.	
35	$\overline{FMON}$			

Feed servo	FMON	$\overline{FMON}$
ON	HiZ	VREF
OFF	VREF	HiZ

36	FMFB	O	Feed motor FWD / BWD feed control signal output terminal. "H" for feed toward the outer edge. "L" for feed toward the inner edge.	3-level output.
37	TEST	I	Test pin. Normally "H" or OPEN.	With pull-up resistor.
38	DMON	O	Analog switch output terminal for switching the disc motor driver gain.	
39	DMFC	O	Disc motor CLV servo AFC signal output terminal.	3-level output.

Command	DMFC output	Operation
DMFK	H	Motor acceleration
DMSV	PWH	CLV servo ON
DMBK	L	Motor deceleration
DMOFF	VREF	CLV servo OFF

40	DMPC	O	Disc motor CLV servo APC signal output terminal.	3-level output.
41	2VREF	I	Double reference voltage input terminal (VREF x 2).	
42	SEL	O	Servo mode select signal output terminal.	3-level output.

SEL	LD ON / OFF	Focusing servo	Operation mode
L	OFF	OFF	LD OFF
HiZ	ON	OFF	Focusing search
H	ON	ON	Normal play

43	FCSI	O	Focus actuator drive signal output terminal for focus search mode.	3-level output.

Command	FCSI output	Operation
FORST	H	Lens gets apart from disc.
FOSET	L	Lens gets closer to disc.
Other	HiZ	Other operation than focus search.

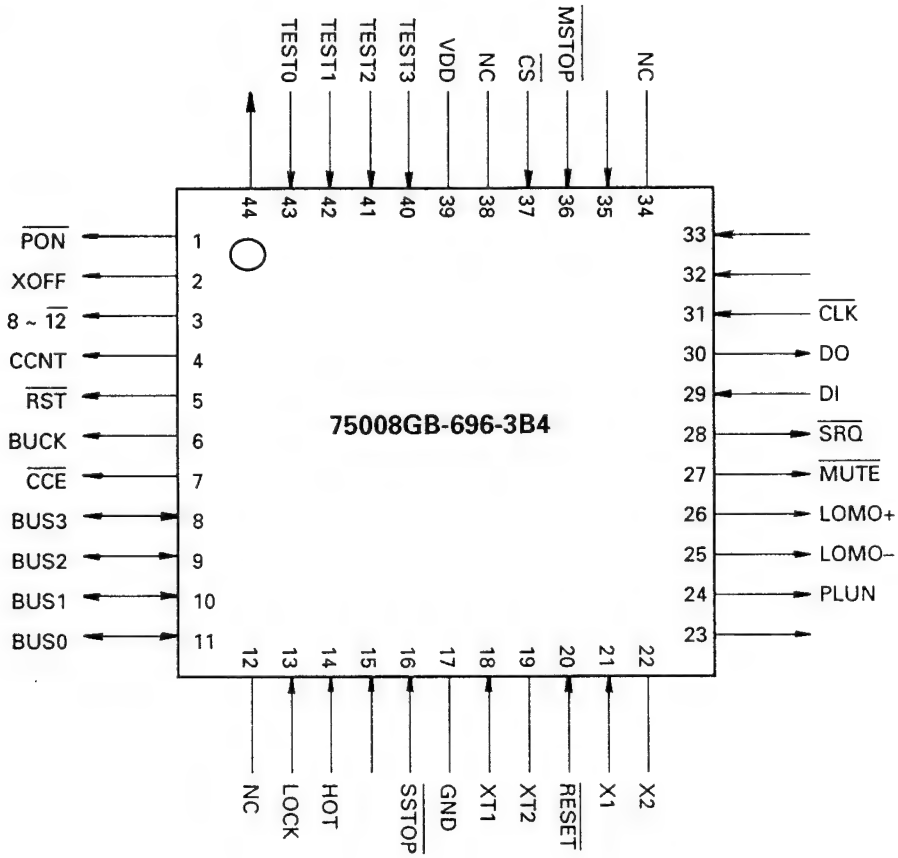
CIRCUIT DESCRIPTION

Pin No.	Symbol	I/O	Function	Remark
44	FKIC	O	Focus actuator drive signal output terminal for focus gain adjustment mode. Other / HiZ / Other operation than focus search. Command / FKIC output / Operation FGASR / H / Lens gets apart from disc. FGASS / L / Lens gets closer to disc. Other / HiZ / Other operation than focus gain adjustment	3-level output.
45, 46	FEL2, 1	O	Analog switch output terminals for focus gain adjustment.	
47	FEI	I	Focusing error signal input terminal.	Analog input.
48	TESH	I	Analog switch input terminal for tracking error signal sample & hold operation.	
49	TEOF	O	Analog switch output terminal for tracking servo operation ON / OFF. VREF when tracking servo is OFF.	
50	SBAD	I	Sub-beam addition signal input terminal.	Analog input.
51	RFRP	I	RF ripple signal input terminal.	
52	VREF	I	Reference voltage input terminal (+2.2V).	
53	RFI	I	RF signal input terminal.	Analog input.
54	GNDA	–	Analog ground terminal.	
55	DTSC	O	EFM signal inverted output terminal for data slice control.	
56	EFMO	O	EFM signal monitoring output terminal.	Binary data.
57	DTSC1	O	EFM signal output terminal for data slice control.	
58	VDDA	–	Analog power supply terminal (+5V).	
59	PDCNT	I	PDO output control terminal. "L" for forcing PDO output to HiZ.	
60	PDO	O	EFM / PLCK phase error signal output terminal.	3-level output.
61	TMAX	O	TMAX signal output terminal. HiZ when system-locked. TMAX cycle / TMAX output Longer than specified cycle / L Shorter than specified cycle / H (2VREF) Equal to specified cycle / HiZ	3-level output.
62	LPFN	I	LPF amp inverted input terminal for PLL.	
63	LPFO	O	LPF amp output terminal for PLL.	
64	VCOF	I	VCO filter terminal.	
65	VCOX	I	External VCO clock input terminal.	
66	PLCK	O	Playback data read clock output terminal.	
67	MOD0	I	Internal operation mode setting input terminals.	
68	MOD1			
69	MOD2			
70	WDCK	O	Word clock output terminal. Normally 88.2kHz.	
71	CHCK	O	Channel clock output terminal. Normally 44.1kHz.	
72	BCK	O	Bit clock output terminal. Normally 1.4112MHz.	
73	AOUT	O	Audio data output terminal.	
74	CKSE	I	Internal clock select terminal.	
75	DOUT	O	Digital output terminal.	
76	$\overline{\text{TEST2}}$	I	Test pin. Normally "H" or Open.	With pull-up resistor.
77	HS	O	High-speed monitoring output terminal. "L" for double-speed operation.	
78	EMPH	O	Emphasis ON / OFF indication signal output terminal. "H" for emphasis ON.	
79	$\overline{\text{TEST3}}$	I	Test pin. Normally "H" or Open.	With pull-up resistor.
80	MCK	O	Master clock output terminal.	

CIRCUIT DESCRIPTION

6. Mechanism μ-com : 75008GB-696-3B4 (IC6, X32-)

6-1. Pin connection



6-2. Pin function

Pin No.	Pin name	Also used as	I/O	Port name	Description
1	P72	KR6	O	PON	+5V POWER CONTROL. For TC9236F, etc. "L" for ON.
2	P71	KR5	O	XOFF	SERVO CLOCK OFF (16MHz). "H" for OFF.
3	P70	KR4	O	8-12	DISC SIZE SW. "H" for 8cm
4	P63	KR3	O	CCNT	TC9236F SUB-CODE UPDATE INHIBIT OUT. "H" for inhibit.
5	P62	KR2	O	RST	TC9236F RESET. "L" for reset.
6	P61	KR1	O	BUCK	TC9236FCOMMAND / DATA COMMUNICATION CLOCK.
7	P60	KR0	O	CCE	TC9236F CHIP ENABLE. "L" for Active.
8~11	P53~50		I/O	BUS3~0	TC9236F COMMAND / DATA COMMUNICATION BUS.
12	NC				
13	P43		I	LOCK	EFM LOCK SIGNAL FROM TC9236F. "H" for lock.
14	P42		I	HOT	TEMPERATURE RISE DETECT. "H" for temperature rise.
15	P41		I		Not used. Connected to GND.
16	P40		I	SSTOP	SLED LIMIT SW. "L" for inner limit.
17	Vss			GND	Connected to GND.
18	XT1		I	XT1	SUB-CLOCK INPUT. Not used, connected to GND.
19	XT2		O	XT2	OPEN

CIRCUIT DESCRIPTION

Pin No.	Pin name	Also used as	I/O	Port name	Description
20	$\overline{\text{RESET}}$		I	$\overline{\text{RESET}}$	μ-COM RESET INPUT. "L" for reset.
21	X1		I	X1	MAIN CLOCK. Connect a 4.19MHz oscillator.
22	X2		O	X2	↑
23	P33		O	SEARCH	Search status output. "L" during search.
24	P32		O		
25	P31		O	LOMO–	CD MECHANISM LOAD MOTOR –.
26	P30		O	LOMO+	CD MECHANISM LOAD MOTOR +.
27	P81		O	$\overline{\text{MUTE}}$	MUTE OUT. "L"→MUTE ON.
28	P80		O	$\overline{\text{SRQ}}$	COMMUNICATION REQUEST TO SYSTEM CONTROLLER, "L"→ Requesting.
29	P03	SI /SB1	I	DI	SERIAL DATA INPUT FROM SYSTEM CONTROLLER.
30	P02	SO / SB0	O	DO	SERIAL DATA OUTPUT TO SYSTEM CONTROLLER.
31	P01	$\overline{\text{SCK}}$	I	$\overline{\text{CLK}}$	SERIAL COMMUNICATION CLOCK FROM SYSTEM CONTROLLER.
32	P00	INT4	I		Not used. Connected to GND.
33	P13	TI0	I		Not used. Connected to GND.
34	NC				
35	P12	INT2	I		Not used. Connected to GND.
36	P11	INT1	I	$\overline{\text{MSOP}}$	MECHANISM μ-COM STOP. "L" → Stop and oscillation end.
37	P10	INT0	I	$\overline{\text{CS}}$	COMMUNICATION REQUEST FROM SYSTEM CONTROLLER. "L" → requesting.
38	NC				
39	V_{DD}			V_{DD}	POWER +5V
40	P23		I	TEST3	TEST INPUT TERMINAL 3. "H"→Test mode.
41	P22		I	TEST2	TEST INPUT TERMINAL 2. "H"→Test mode.
42	P21		I	TEST1	TEST INPUT TERMINAL 1. "H"→Test mode.
43	P20	PTO0	I	TEST0	TEST INPUT TERMINAL 0. "H"→Test mode.
44	P73	KR7	O		OPEN

4-3. Mechanism microprocessor test mode

This test modes are provided to allow the mechanism microcomputer checking the servo system without the help of the system controller, for example when the mechanism deck is manufactured, etc. It also allows the mechanism microcomputer alone to load of eject a disc.

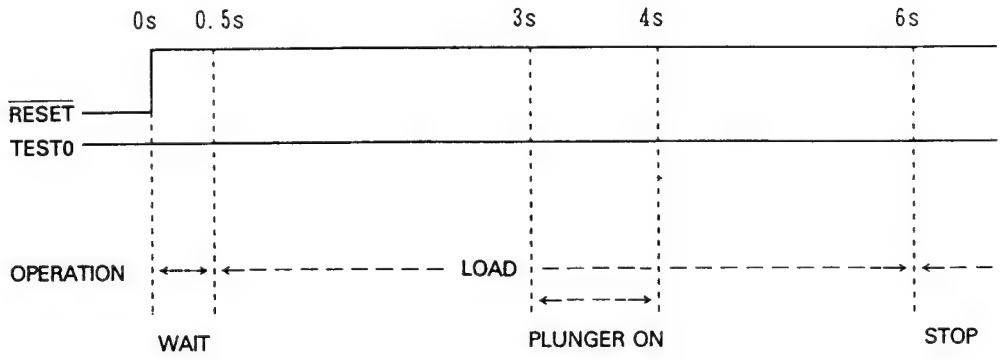
- **Setting methods and operations**

Regardless of the system controller, the test mode can be set by reading the test terminals at the time of resetting. The three kinds of modes as described below can be set according to the statuses of the four test terminals. In any test mode, it is required that the servo and mechanism power supplies have already been turned on before resetting.

CIRCUIT DESCRIPTION

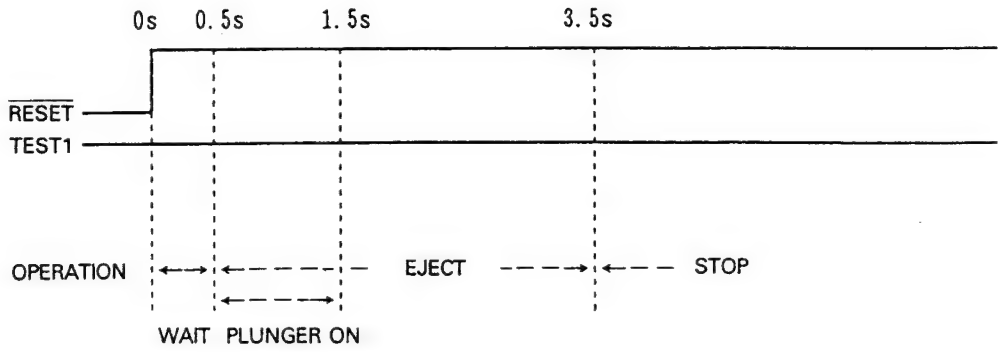
(1) Self loading

Loading starts when the TEST0 terminal is "H" at the time of resetting. However, as the mechanism microcomputer does not check the sensor, the loading always starts with the same timing as shown below. Therefore, if the chucking is correct or not can be checked visually or by monitoring DOWN SW.



(2) Self-ejection

Ejection starts when the TEST1 terminal is set to "H" at the time of resetting. Similarly to the case of self-loading, the timing is constant as shown below.



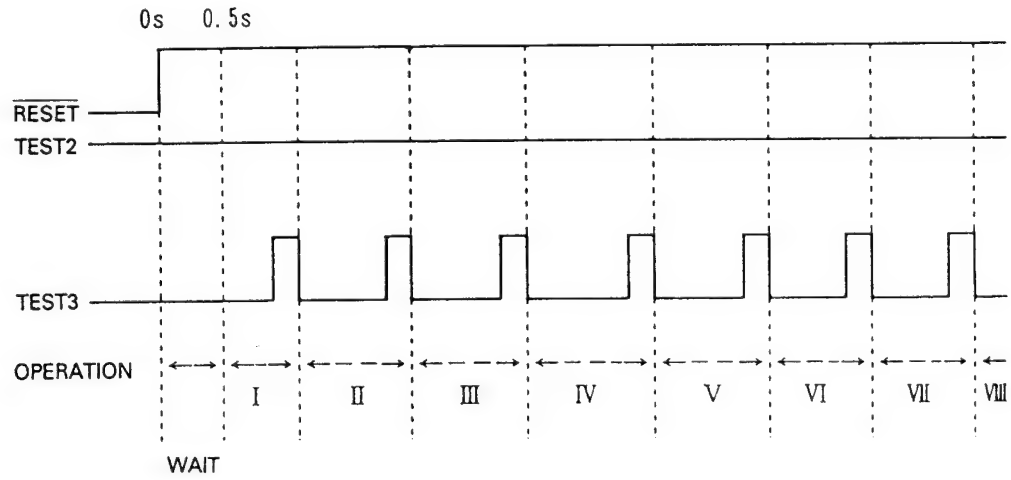
CIRCUIT DESCRIPTION

(3) Servo testing

The servo check mode can be entered when the TEST2 terminal is set to "H" at the time of resetting. Under this condition, applying a "H" pulse to the TEST3 terminal starts sequential operations of the mechanism and servo system, allowing checking of the operations. If both the TEST2 and TEST3 terminals are set to "H" at the time of resetting, the operations shown below occur automatically, and the last track will be played.

Due to the chattering cutting, only pulses in the range from 100ms to 1sec. are accepted as the input to the TEST3 terminal. The servo-related settings are constant with 12cm discs.

Note : The test mode can be canceled by resetting or entering the stop mode. Communications with the system controller is not performed in the test mode. In case the test terminals should go "H" together, the priority is set in the order of TEST0, TEST1 then TEST2.



I. Stop. No operation until a pulse is input.
II. Feed motor set to the origin point.
III. Laser diode ON.
IV. Focus servo ON.
V. Disc motor kick, CLV ON.
VI. Tracking and feed servo ON.
VII. First track play.
VIII. Last track search and play.

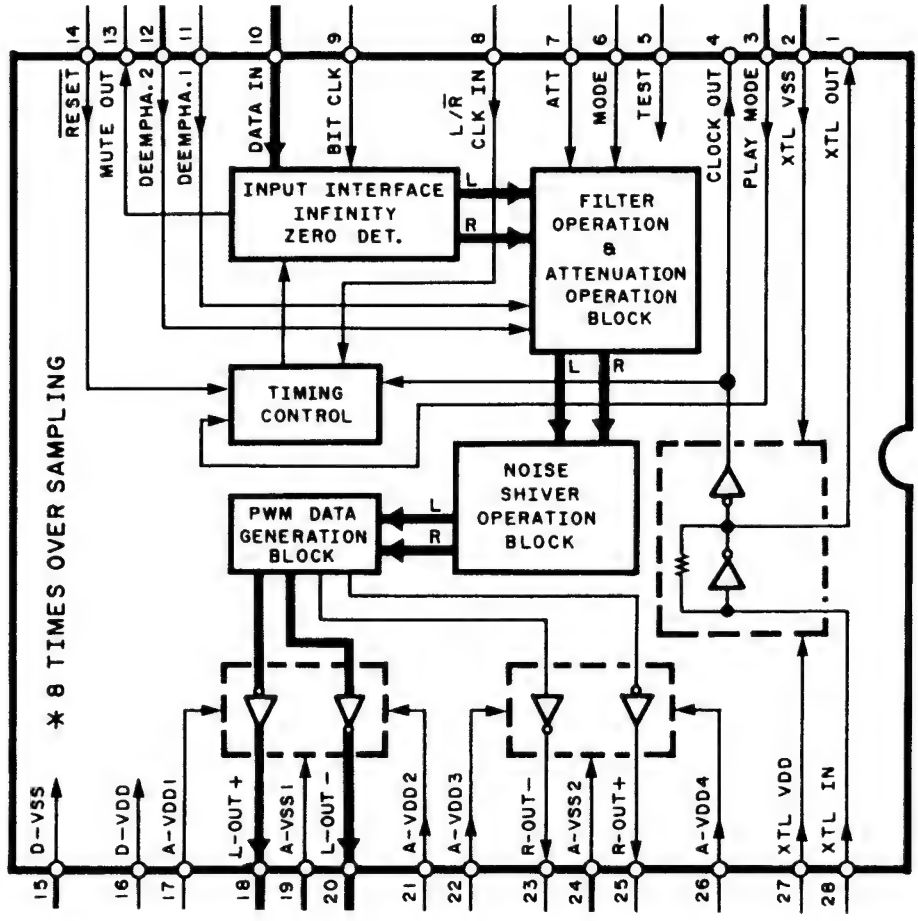
Because of the chattering cutting, only pulses with durations of 100ms to 1sec. are accepted in TEST3. The servo-related setting are constant with 12cm disc.

Note : The test mode can be released by resetting the microcomputer or entering the stop mode. Communicatons with the system controller are not performed in the test modes. If more than one test terminal is "H" simultaneously, the test mode is selected in order of priority from TEST0 to TEST1 and TEST2.

CIRCUIT DESCRIPTION

7. D/A Converter : SM5871AS (IC7, X32-)

7-1. Block diagram



CIRCUIT DESCRIPTION

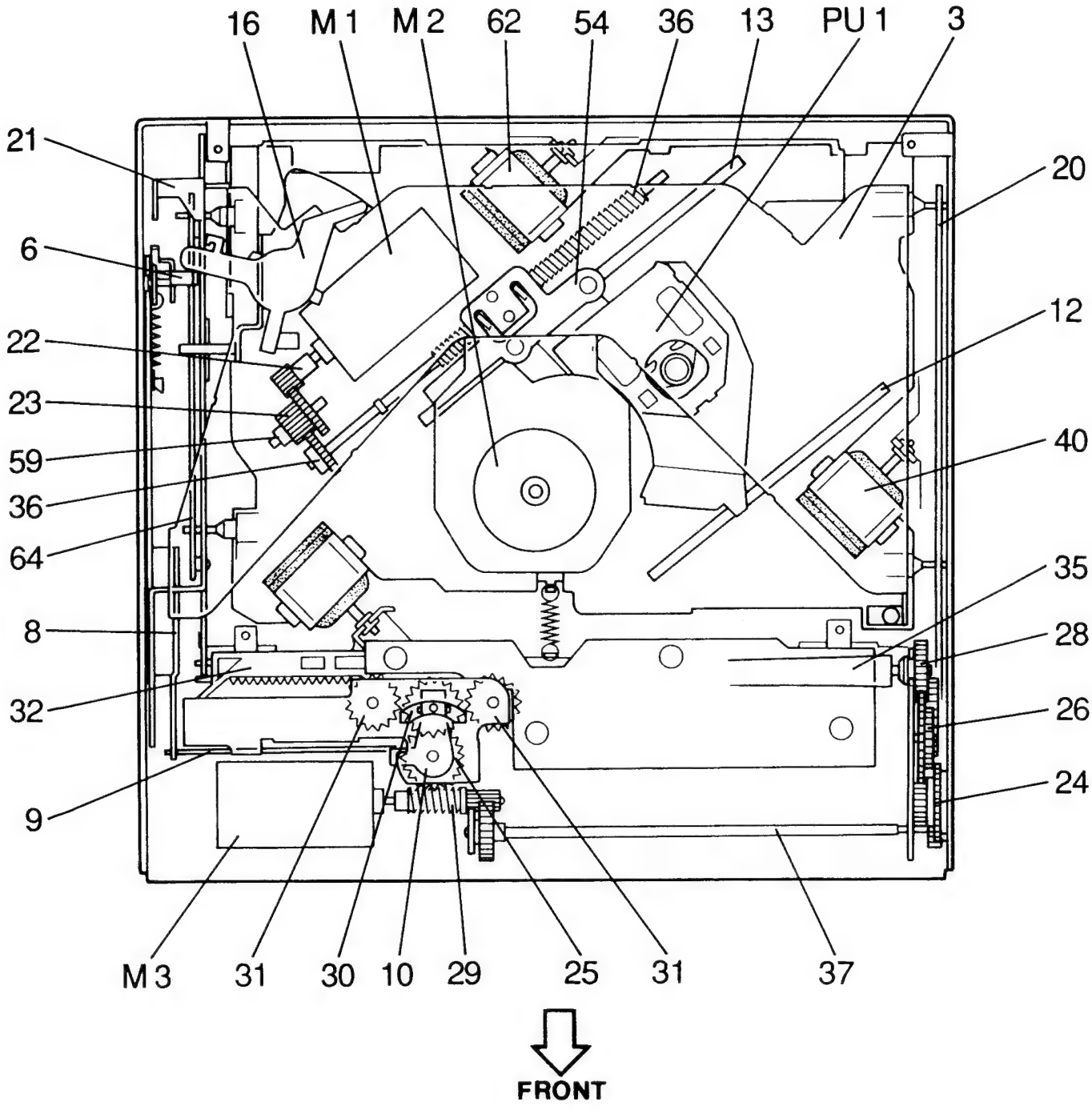
7-2. Pin function (ip: Input terminal with pull-up resistor.)

Pin No.	Symbol	I/O	Function
1	XTO	O	Oscillator output terminal
2	XVSS		X'tal VSS terminal (0 V)
3	DS	ip	Normal-/Double-speed play mode selection (DS = L: Normal-speed play mode) (DS = H: Double-speed play mode)
4	CKO	O	Oscillator output clock (DS = L: 384 fs which is same as XTI input frequency) (DS = L: 192 fs which is same as XTI input frequency)
5	TSTN	ip	Test terminal: To be fixed to H in actual operation.
6	MODN	ip	Mode control terminal
7	ATTN	ip	Soft muting control terminal
8	LRCI	ip	Input data sampling rate (fs) clock H = L CH L = R CH
9	BCKI	ip	Input data bit clock
10	DIN	ip	Input data
11	DFS1	ip	De-emphases control terminal 1
12	DFS2	ip	De-emphases control terminal 2
13	MUTEO	O	Infinity zero detection output
14	RSTN	ip	System reset: H = Normal operation L = System reset
15	DVSS		Digital GND terminal (0 V)
16	DVDD		Digital VDD terminal (5 V)
17	AVDD1		Analog VDD terminal (5 V)
18	LO	O	Lch PWM output (+)
19	AVSS1		Analog GND terminal 1 (0 V)
20	LON	O	Lch PWM output (−)
21	AVDD2		Analog VDD terminal 2 (5 V)
22	AVDD3		Analog VDD terminal 3 (5 V)
23	RON	O	Rch PWM output (−)
24	AVSS2		Analog GND terminal 2 (0 V)
25	RO	O	Rch PWM output (+)
26	AVDD4		Analog VDD terminal 4 (5 V)
27	XVDD		X'tal VDD terminal (5 V)
28	XTI	i	Oscillator input terminal (384 fs: DS = L) (192 fs: DS = H)

ATTN	Selection	MODN	
		H	L
	H	Soft muting cancel operation	Soft muting operation held (Fixed)
	L	Soft muting operation	

DFS2	Selection	DFS1	
		L	H
	H	De-emphasis ON, 44.1 kHz	De-emphasis OFF
	L	De-emphasis ON, 48.0 kHz	De-emphasis ON, 32.0 kHz

MECHANISM OPERATION DESCRIPTION

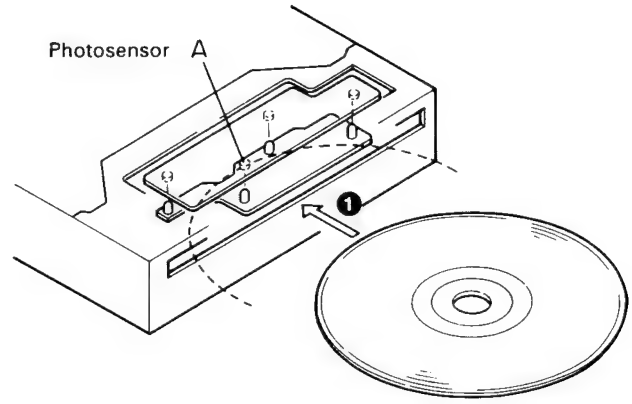


Note : Figures in the bracket ( ) in the operation description or accompanied with the part name in the diagram show the reference numbers in the Exploded View.

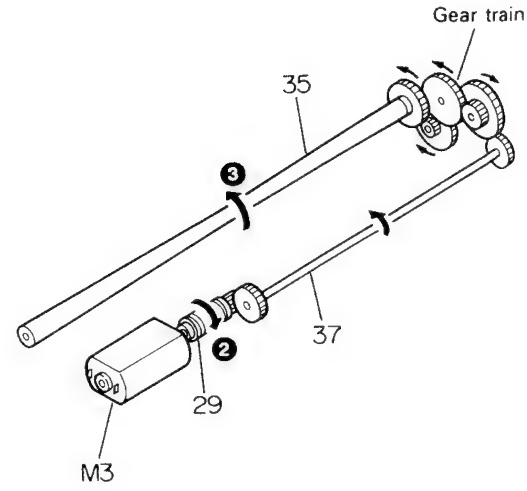
MECHANISM OPERATION DESCRIPTION

1. Loading

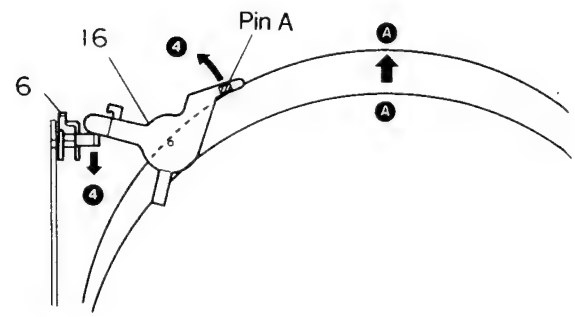
1. A CD is inserted (❶).
2. Photosensor A detects the disc insertion.
3. The loading motor (M3) starts rotation according to the microcomputer instruction.



4. The rotation is transmitted through the worm gaer (29), drive shaft (37) and gear train, up to the loading roller (35). (❷)
5. The CD is pulled by the friction of the rubber roller (❸).

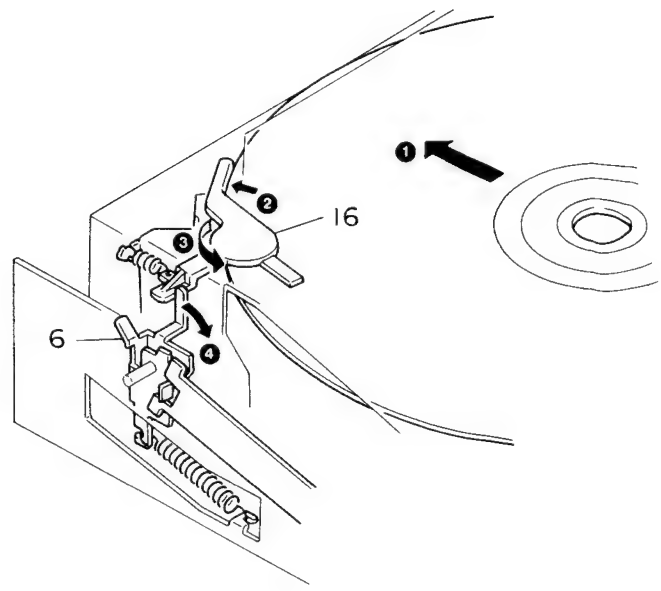


6. When the CD is advanced to position Ⓐ pin A installed on lever 16 is pushed by the CD. The lever 16 rotates counterclockwise (❹).



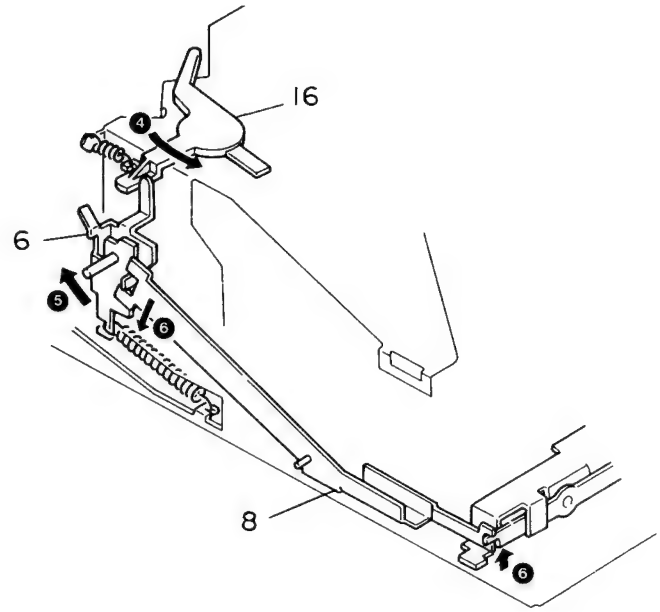
2. Chucking

1. When the CD contacts projection of the lever 16 (❶).
2. The lever 16 rotates counterclockwise (❷, ❸).
3. The projection section on the other side of lever 16 is in contact with the lever 6 (❹).



MECHANISM OPERATION DESCRIPTION

4. The "projection section" of the lever 16 is designed to come in contact with the projection section of lever 6, which is rotated clockwise when the lever 16 moves (❺).
5. The claw installed on lever 6 is engaged with the "T-shaped hole" on lever 8, which is rotated counter-clockwise when lever 6 rotates clockwise (❻).



6. In Fig. 2-3, the worm wheel (25) held on the same shaft as the friction arm (10) is rotated clockwise by the rotation of the worm gear described above (❼).
   The spur gear integrated with the worm wheel (25) is meshed with the planetary gear (30), and rotates counterclockwise. A leaf spring, which is not shown in the figure, is inserted between the planetary gear (30) and the friction arm (10) in order to generate a friction force between them. This friction force ensures that the friction arm (10) rotates always clockwise (❽).
7. The "notch section" on the tip of lever 8 is engaged with the tip of lever 9.
8. The "tip section" on the other end of lever 9 is contacted by the "projection section" of the friction arm (10) described before. This contact prevents the clockwise rotation of the friction arm.
9. As a result of the sequence of operations starting with the movement of lever 1 described before, the "notch section" of lever 8 rises, lever 9 rotates clockwise (❻), and the contact of the projection section of the friction arm is separated. This frees the friction arm (10) and it starts clockwise rotation (❽).

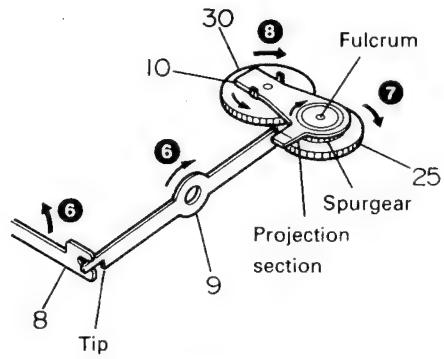
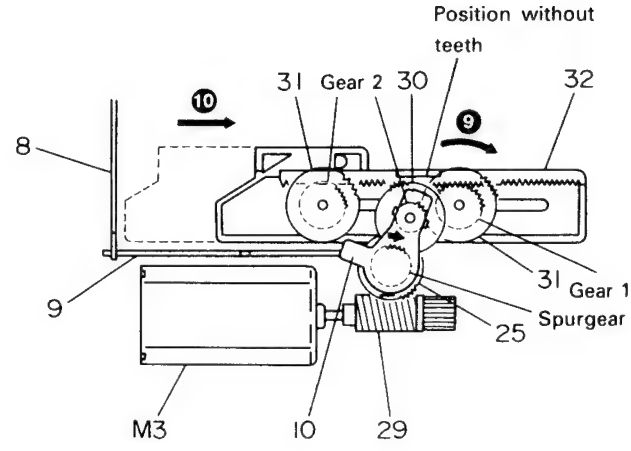


Fig 2-3.

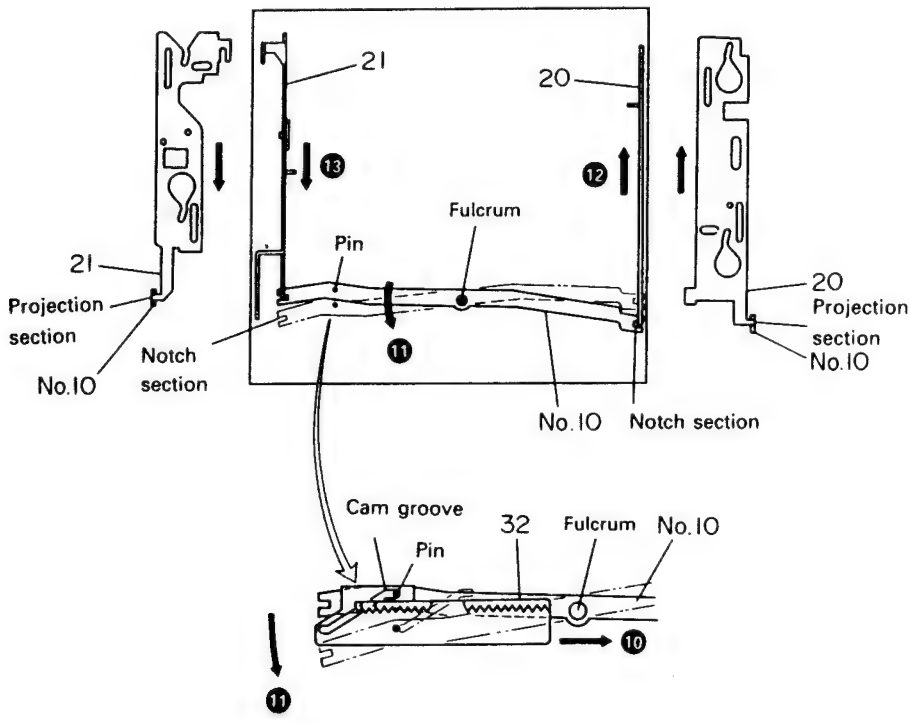
MECHANISM OPERATION DESCRIPTION

10. When the friction arm (10) rotates clockwise, the planetary pinion of the planetary gear (30) is meshed with gear 1, which starts clockwise rotation (❾). As gear 1' integrated with gear 1 is meshed with the rack gear (32), the rack gear starts to move toward the right (❿).
When the rack gear moves further toward the right, gear 1' and the rack gear are disengaged at the position without teeth, and the rack gear stops to move.



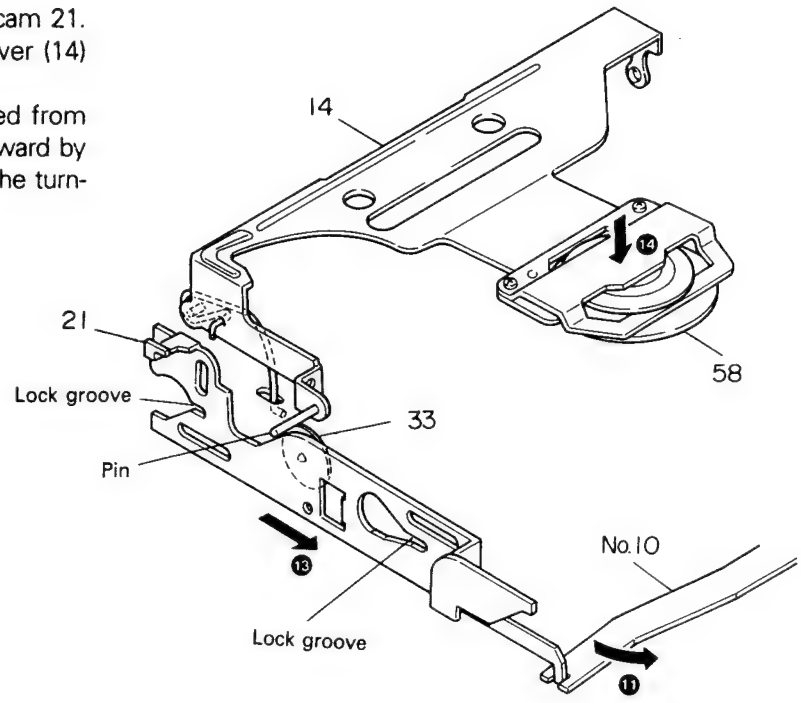
11. The cam groove provided on the rack gear (32) activates the pin of lever 10 supported by a shaft on the chassis, and lever 10 rotates counterclockwise (⓫).
12. Into the notch sections on both ends of lever 10, the projection sections of cam 20 and cam 21 are engaged.

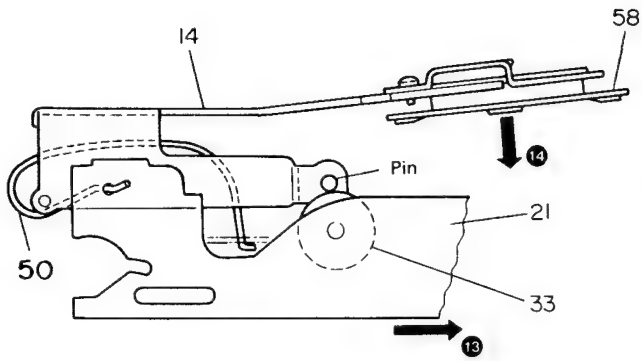
Cams 20 and 21 are held by the chassis so that they can slide freely. When lever 10 rotates counterclockwise, cam 20 moves upward (⓬) in the figure and cam 21 moves downward in the figure (⓭).

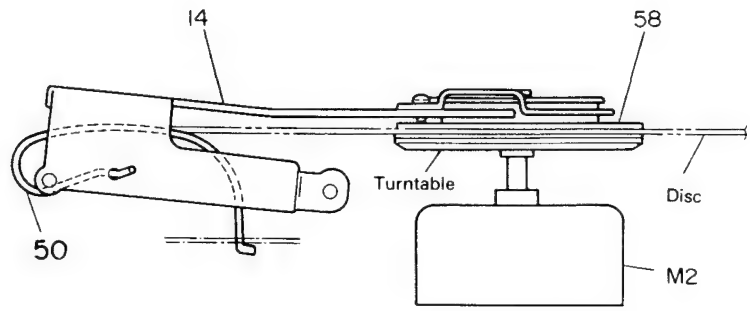


MECHANISM OPERATION DESCRIPTION

13. A roller (33) is supported by a shaft above cam 21. The roller supports the pin on the clamp lever (14) so the clamper (58) is in the up position.
When cam 21 moves, the roller is separated from the pin, and the clamp lever is moved downward by the force of the spring (50) to fix the CD on the turntable (⓮).

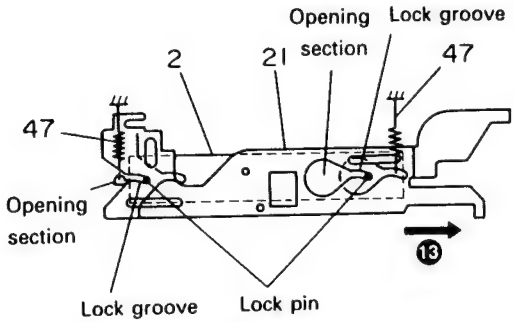




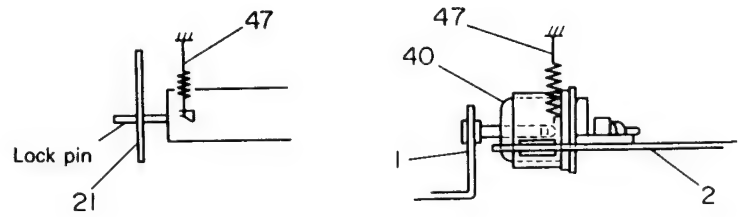


MECHANISM OPERATION DESCRIPTION

14. Cam 21 has a lock groove, in which the lock pin of the pickup chassis (2) is engaged. The pickup chassis is fixed. When cam 21 moves, the lock pin is relatively moved to the opening section. This frees the pickup chassis, which is held in the floating status by the suspension spring (47) and damper (40).



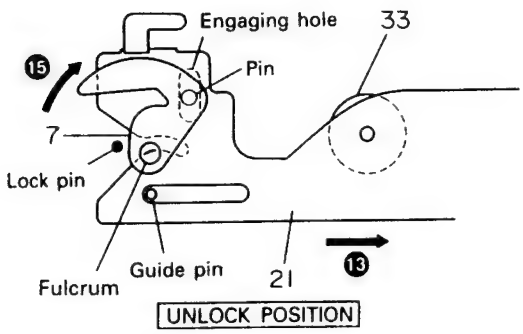
15. Cam 20 also has a lock groove and opening similarly to cam 21. It is subject to the lock and unlock operations between the lock pin on the pickup chassis.

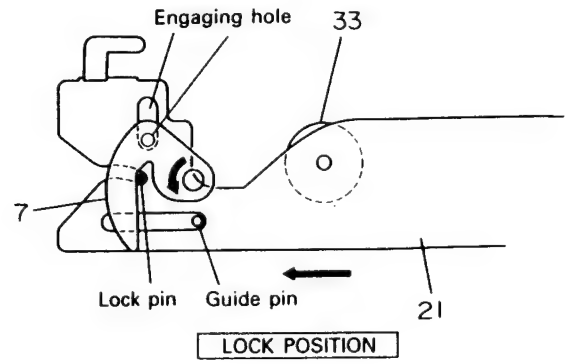


16. The lock lever (7) is supported by a shaft on the chassis, and the pin (actually a projection with burrs) on the lock lever is engaged into the engaging hole on cam 21. The cam is held by the guide pin so that it can move freely toward the front or rear of the chassis.
17. Before loading of the CD, cam 21 is the lock position shown in the figure. In this position, the lock section of the lock lever (7) prevents, or locks, the horizontal movement of the lock pin of the pickup chassis (2).

When a CD is loaded as described before, cam 21 moves toward the right in the figure and the lock lever (7) starts clockwise rotation (15) This causes the lock section to move upward and the lock pin of the pickup chassis is freed. The horizontal movement of the pickup chassis is locked or unlocked based on the above.

18. Although not shown in the figure, a similar lock lever is also used with cam 20 to lock or unlock the front right side of the pickup chassis.

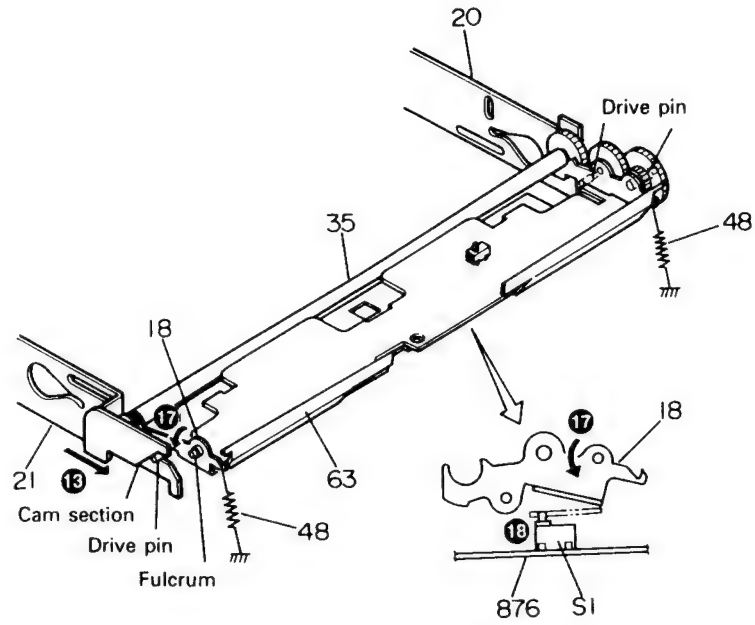




MECHANISM OPERATION DESCRIPTION

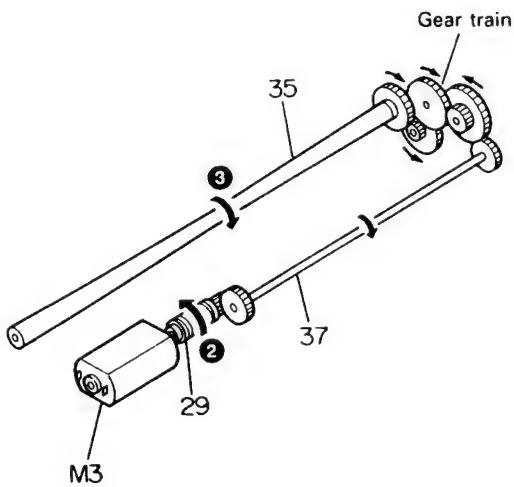
19. Cam 21 has a cam section which is in contact with drive pin 1 of the roller lever (18).
When a CD is loaded as described before, cam 21moves toward the right in the figure, its cam section pushes the drive pin, and the roller lever (18) starts counterclockwise rotation. (The same operation occurs also with cam 20.) (⑰)
As a result, the loading roller (35) goes downward, the contact between the CD and the roller is separated, and the CD transport is stopped.

20. A switch (S1) is installed below the roller lever (18), and turned ON when the roller lever goes down ward (⑱).
The microcomputer identifies the completion of chucking when this switch is turned ON. However, the motor rotation is continued for more about 0.5 second to allow a margin until the actions in other mechanisms terminate completely. After this, the motor (M3) rotation stops based on the judgment of the completion of chucking.
21. After the completion of chucking, the playback starts according to the microcomputer instruction.

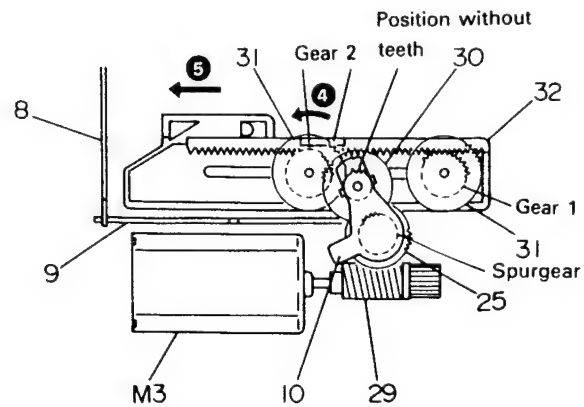


3. Ejection

1. When the eject button is pressed, the loading motor (M3) starts inverse rotation (❷).

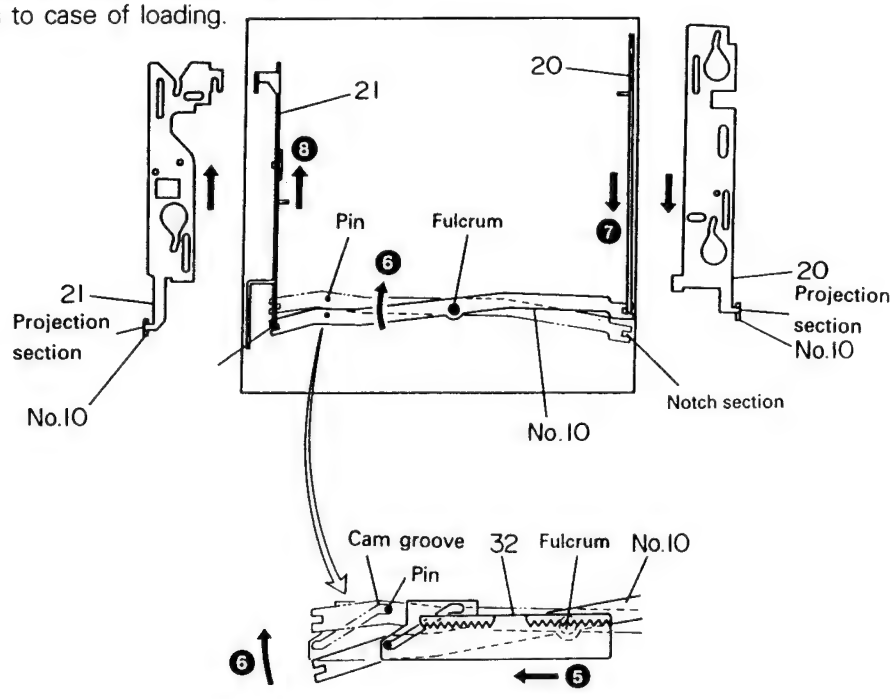


2. The friction arm (10) rotates counterclokwise, and the rack gear (32) moves toward the left (❹) (❺).

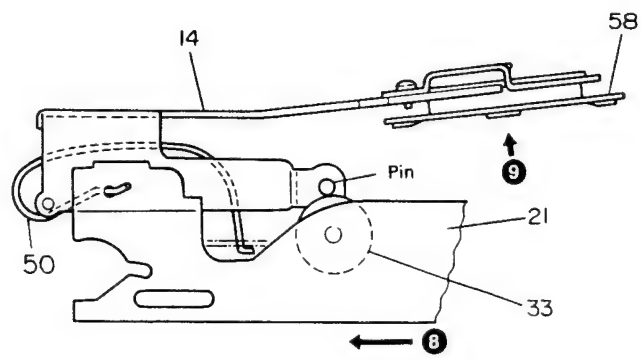


MECHANISM OPERATION DESCRIPTION

3. Cam 20 and 21 lock the pickup chassis by acting in the opposite ways to case of loading.



4. The lift roller (33) pushes the clamp lever (14) upward, thereby moving the clamper (58) upward (❾).
5. The loading roller (35) moves upward and the door moves downward. The disc is ejected by pressure.



4. Playback

1. When the disc is chucked and the DOWN switch (S1) is turned ON, the microcomputer checks the limit switch (*1). If it is OFF, the sled motor (*2) is rotated to feed the pickup toward the inner periphery and turn the switch ON.
2. When the limit switch is turned ON, the pickup is activated, the focusing servo then the tracking servo are applied, the spindle motor (M2) is rotated, and playback is started.
3. When the stop button is pressed, all servoes are turned OFF while the pickup position is not changed.
4. When the eject button is pressed, the ejection operation is performed a described before. At the same time, the pickup is fed toward the inner periphery and stopped when the limit switch is turned ON.

*1 Switch which is turned ON when the pickup is on the inner periphery position.

*2 Motor which moves the pickup toward the inner

MECHANISM OPERATION DESCRIPTION

5. Mechanism operation timing

5-1. Control terminals

Out put terminal

① Motor (+) terminal
② Motor (–) terminal

Input terminals

① Photosensor (A) terminal	*1
② Photosensor (B, D) terminal	*1
③ Photosensor (C) terminal	*1
⑤ DOWN switch	*2

*1 Chattering shall be 20 ms.
*2 Chattering shall be 30 ms.

5-2 Loading operations

Loading start conditions

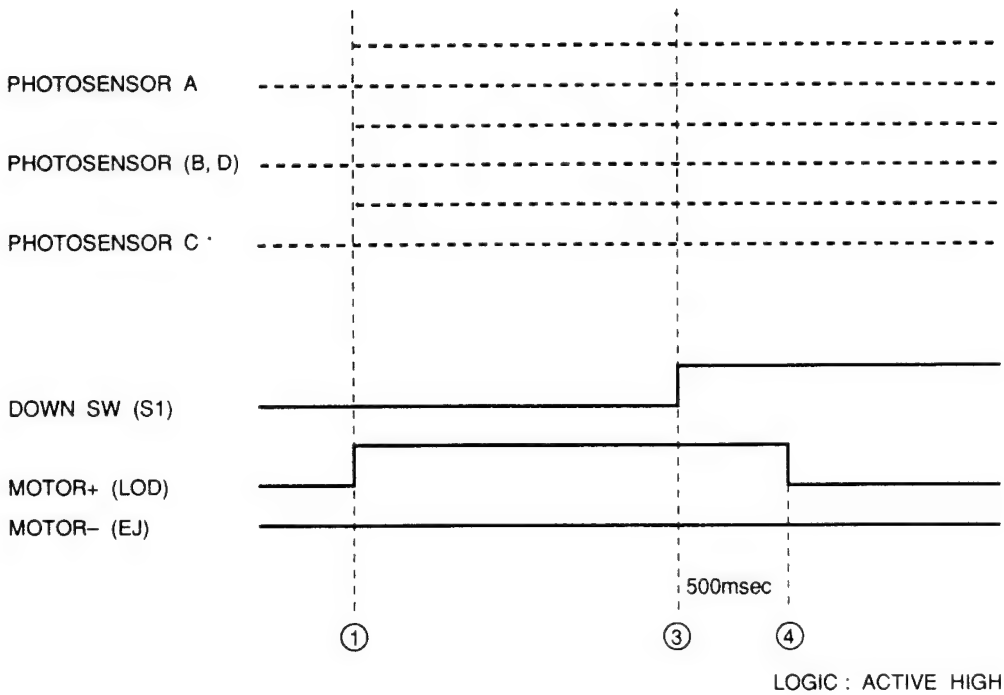
- Loading start from the status without disc : Loading starts when one of photosensors A, (B, D) and C is turned ON.
- Loading start from the status after completion of ejection of 12cm disc [when only photosensors A and (B, D) are ON] : Loading starts when photosensor C is turned ON.
- Loading starts from the status after completion of ejection of 8cm disc [when only photosensor A is ON] : Loading starts when photosensor (B, D) is turned ON.

Loading control methods

① When one of the loading start conditions is met, the motor is driven toward the loading direction.
③ When the DOWN switch is turned ON, the motor is driven for 500ms, after which it is stopped,
④ Photosensors A and (B, D) check whether the disc is 8cm or 12cm.

Loading protection operation

- In case loading does not complete in 8 seconds after the start, the operation transits to ejection. If the ejection does not complete in 8 seconds again, the operation is stopped immediately.
- If all photosensors are OFF for 1 seconds in the period between the start and completion of loading, the loading is stopped based on the judgment that the disc has been removed.



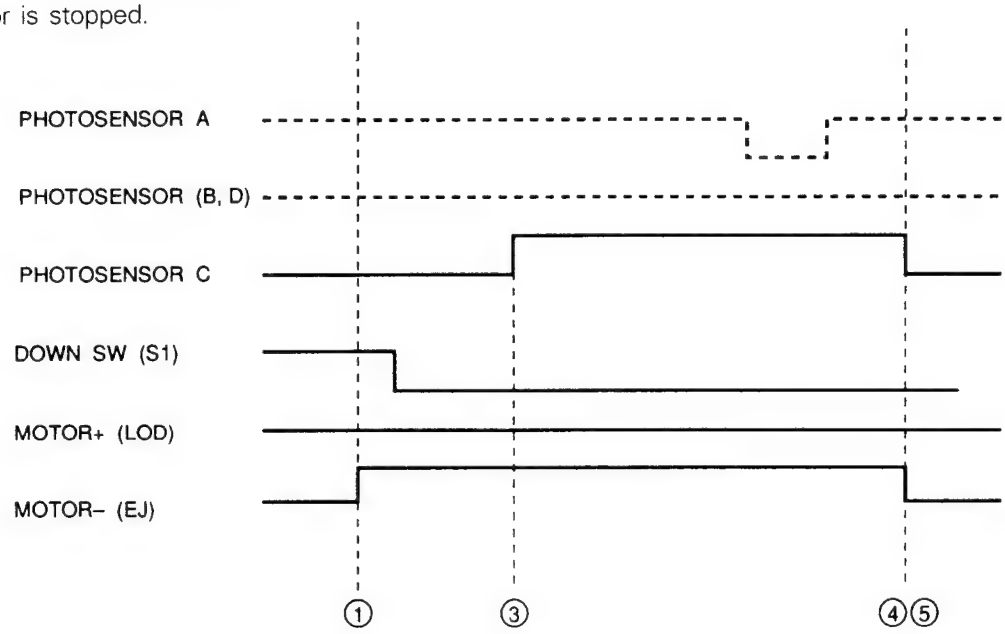
MECHANISM OPERATION DESCRIPTION

5-3. Ejection operation

Ejection control methods

[1] Ejection control from the status in which 12cm disc is chucked

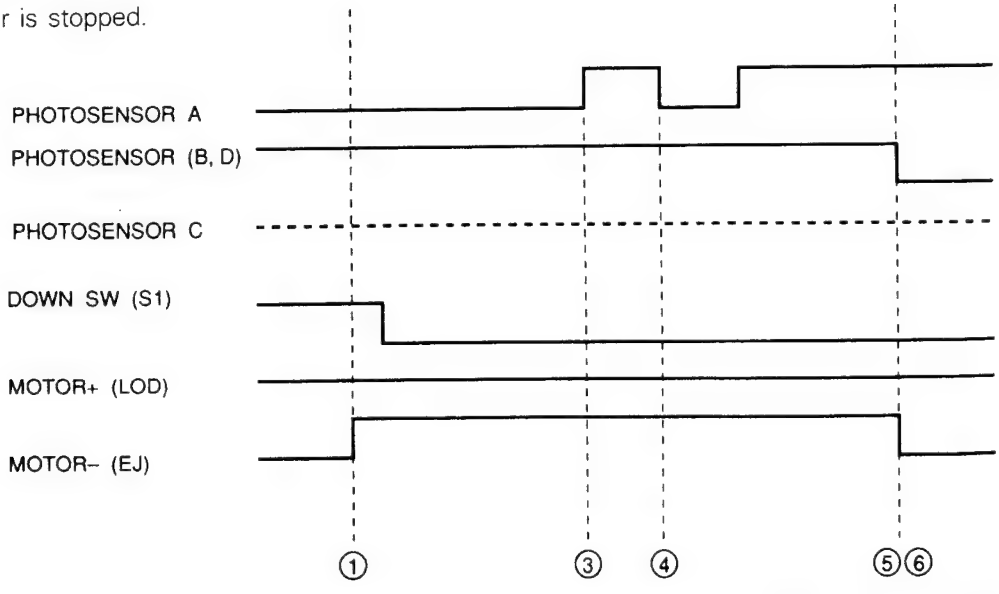
① The motor is driven in the ejection direction.
③ Photosensor C is turned ON.
④ Photosensor C is turned OFF.
⑤ The motor is stopped.



LOGIC : ACTIVE HIGH

[2] Ejection control from the status in which 8cm disc is chucked

① The motor is driven in the ejection direction.
③ Photosensor A is turned ON.
④ Photosensor A is turned OFF.
⑤ Photosensor A is kept ON and photosensor (B, D) is turned OFF.
⑥ The motor is stopped.



LOGIC : ACTIVE HIGH

MECHANISM OPERATION DESCRIPTION

[3] Ejection control from the status in disc is located in the middle

- In case the presence of disc can be identified with a photosensor : The loading completion status is set temporarily to identify the disc size, then ejection is restarted.
- In case the photosensors, END switch and DOWN switch are all OFF :

(1) The motor is driven in the ejection direction for 500ms.

(2) When a photosensor reacts, the loading completion status is set temporarily to identify the disc size, then ejection is restarted.

Ejection protect operation

- In case ejection does not complete in 8 seconds after the start, the operation transits to loading. If loading does not complete in 8 seconds again, the operation is stopped immediately.
- If all photosensors are OFF for 1seconds in the period between the start and completion of ejection, the ejection is stopped based on the judgment that the disc has been removed.
- If the DOWN switch is ON while all photosensors are OFF, ejection is performed. (Because loading is possible even when disc is absent, for example in test mode.)

5-4. Momentary OFF during loading or ejection.

- Momentary OFF during loading : Loading is stopped temporarily. When the momentary OFF is released, loading is restarted from the same position.
- Momentary OFF during ejection : Ejection is stopped temporarily. When the momentary OFF is released, the loading completion status is set, the disc size is identified, and ejection is started again.

5-5. Acc ON/OFF during loading of ejection.

- Acc ON/OFF during loading : Loading is countinued until completion. However, the protect timer is activated, and loading is stopped if the timer overflows.
- Acc ON/OFF during ejection : Ejection is coutinued until completion. However, the protect timer is activated, and ejection is stopped if the timer overflows.

SUPPLEMENT RELATED TO LOADING/EJECTION OF DXM-206 (CD-MECHANISM)

1. 8/12cm disc size identification method
   The disc size is identified using photosensors A and (B, D) in the chucking completion status.

A OFF, B/D OFF = 12cm
A OFF, B/D ON = 8cm
A OFF, B/D ON = 12cm (abnormal)
A ON, B/D ON = 8cm (abnormal)

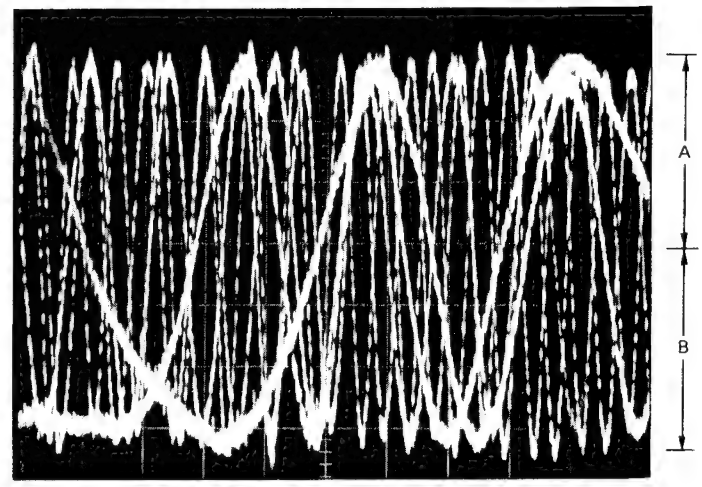
2. Ejection in chucking status without disc.
   If ejection is started while the DOWN switch is ON, the motor keeps on running for more 700 milliseconds even if all photosensors are OFF, then the one-second timer for checking if all photosensors are OFF is started. Therefore, if ejection is started without disc, the motor should rotate for two seconds, making it possible to set the mechanism to the complete ejection status.

ADJUSTMENT (MECHANISM)

1. Tracking offset adjustment

1. Connect a test jumper wire between the test point (TEST2) and (+5 V).
2. Connect a test jumper wire between the test point (TOFF) and (Vref).
3. Connect an oscilloscope between the test point (TE) and (Vref).
4. Put the set into play mode by loading the disc.
5. Adjust VR2 so that the oscilloscope reading is symmetrical in relation to 0 V.
6. After adjusting, reset 1 and 2 as original.

Volt/Div: 200 mV Timer/Div: 0.5 μsec. DC INPUT

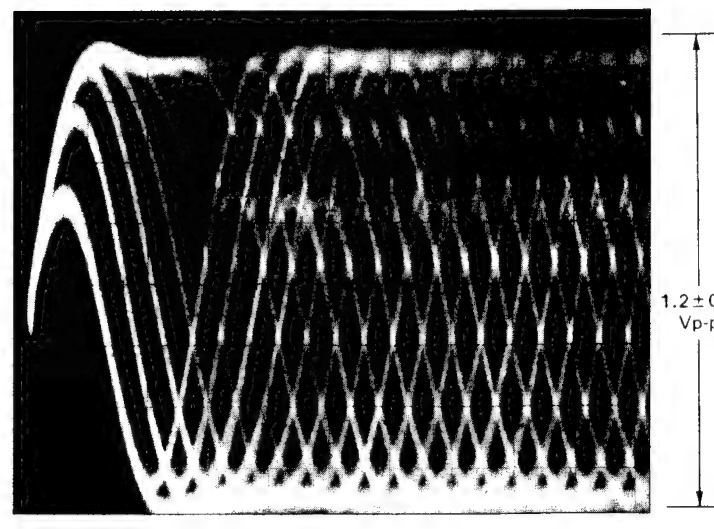


A = B

2. Focus offset adjustment

1. Connect an oscilloscope to the test point (RF).
2. Put the set into play mode by loading the disc.
3. Adjust VR1 so that the oscilloscope waveform eye pattern is good.
   A good eye pattern means that the diamond shape (◇) in the center of the oscilloscope can be clearly distinguished.

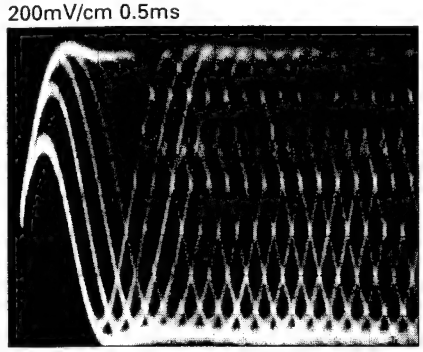
Volt/Div: 200 mV Timer/Div: 0.5 μsec.



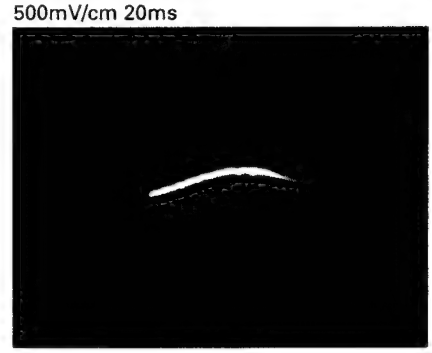
ADJUSTMENT (MECHANISM)

Wave form : Photo No. → Refer to SCHEMATIC DIAGRAM

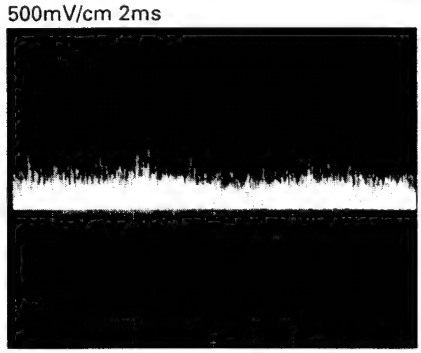
① IC2 Pin No.53 (RFI)
200mV/cm 0.5ms



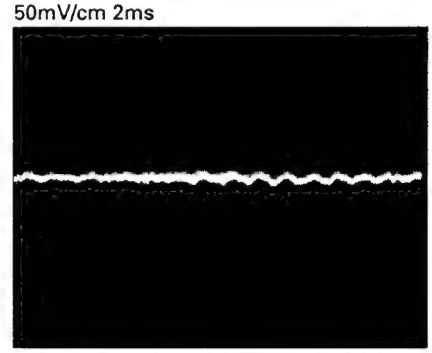
⑤ IC1 Pin No.29 (FMPO)
500mV/cm 20ms



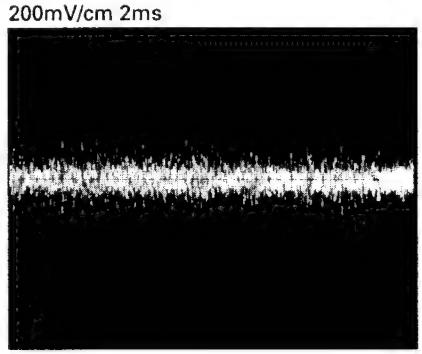
② IC1 Pin No.31 (FMEN)
500mV/cm 2ms



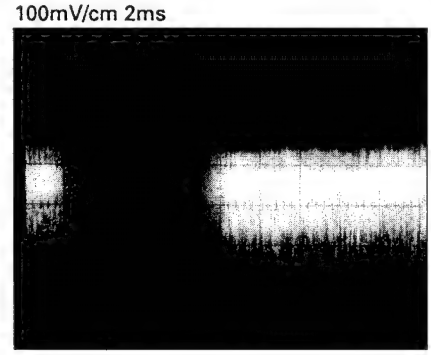
⑥ IC1 Pin No.19 (FSO)
50mV/cm 2ms



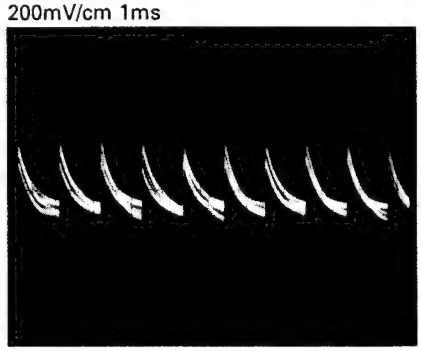
③ IC1 Pin No.37 (TS2Q)
200mV/cm 2ms



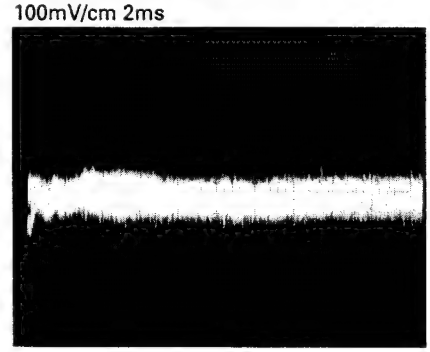
⑦ IC1 Pin No.12 (RFRP)
100mV/cm 2ms



④ IC1 Pin No.26 (DMEO)
200mV/cm 1ms

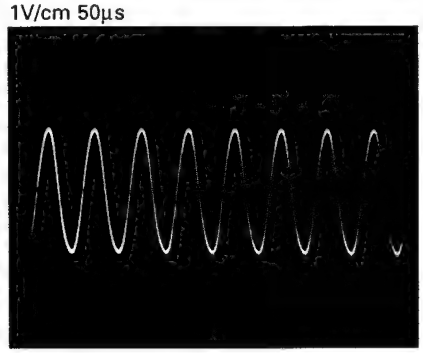


⑧ IC1 Pin No.13 (SBAD)
100mV/cm 2ms

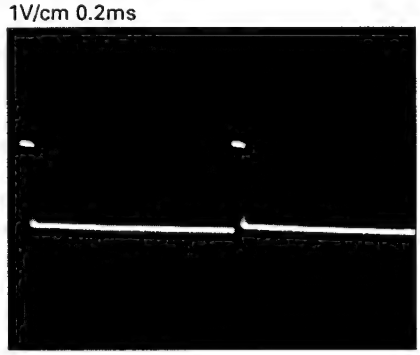


ADJUSTMENT (MECHANISM)

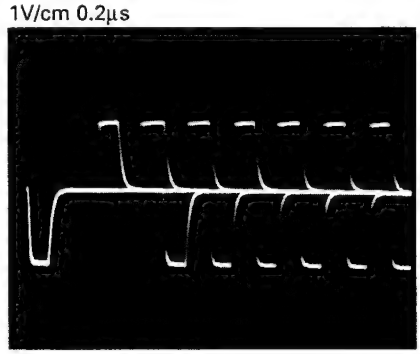
⑨ IC2 Pin No.10 (XI)
1V/cm 50µs



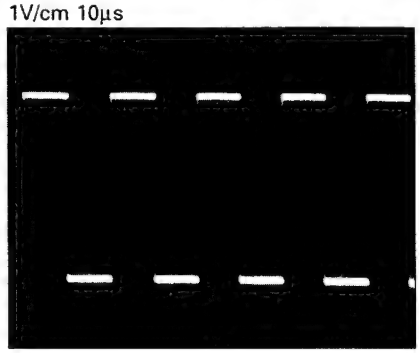
⑩ IC2 Pin No.40 (DMPC)
1V/cm 0.2ms



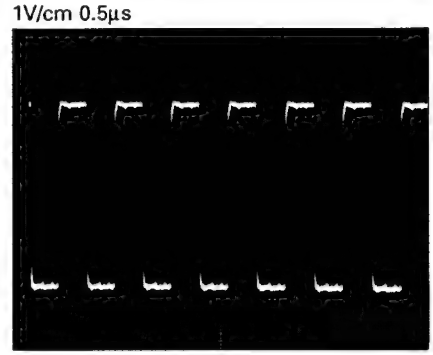
⑪ IC2 Pin No.60 (PDO)
1V/cm 0.2µs



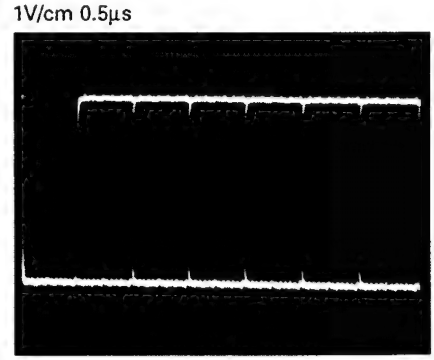
⑫ IC2 Pin No.71 (LRCK)
1V/cm 10µs



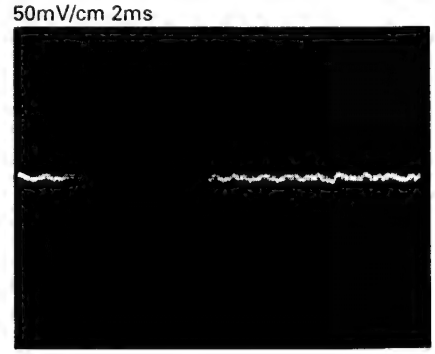
⑬ IC2 Pin No.72 (BCK)
1V/cm 0.5µs



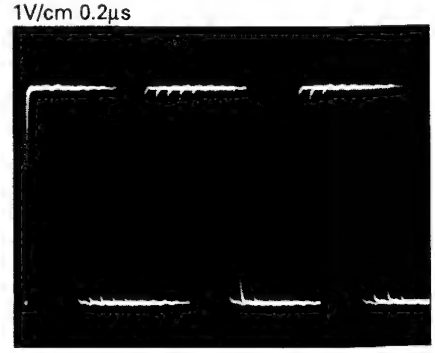
⑭ IC2 Pin No.73 (DATA)
1V/cm 0.5µs



⑮ IC1 Pin No.15 (FEO)
50mV/cm 2ms

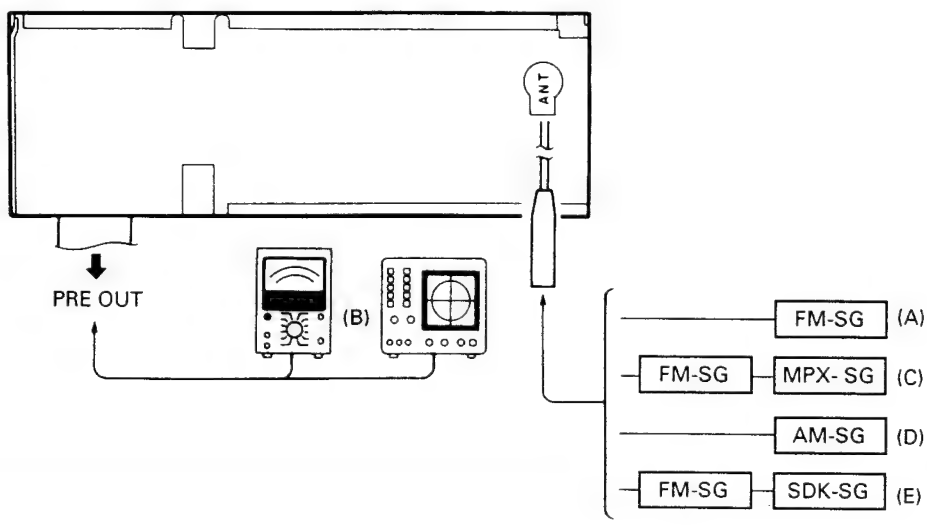


⑯ IC7 Pin No.18 (LO), 20 (LON), 23 (RON), 25 (RO)
1V/cm 0.2µs

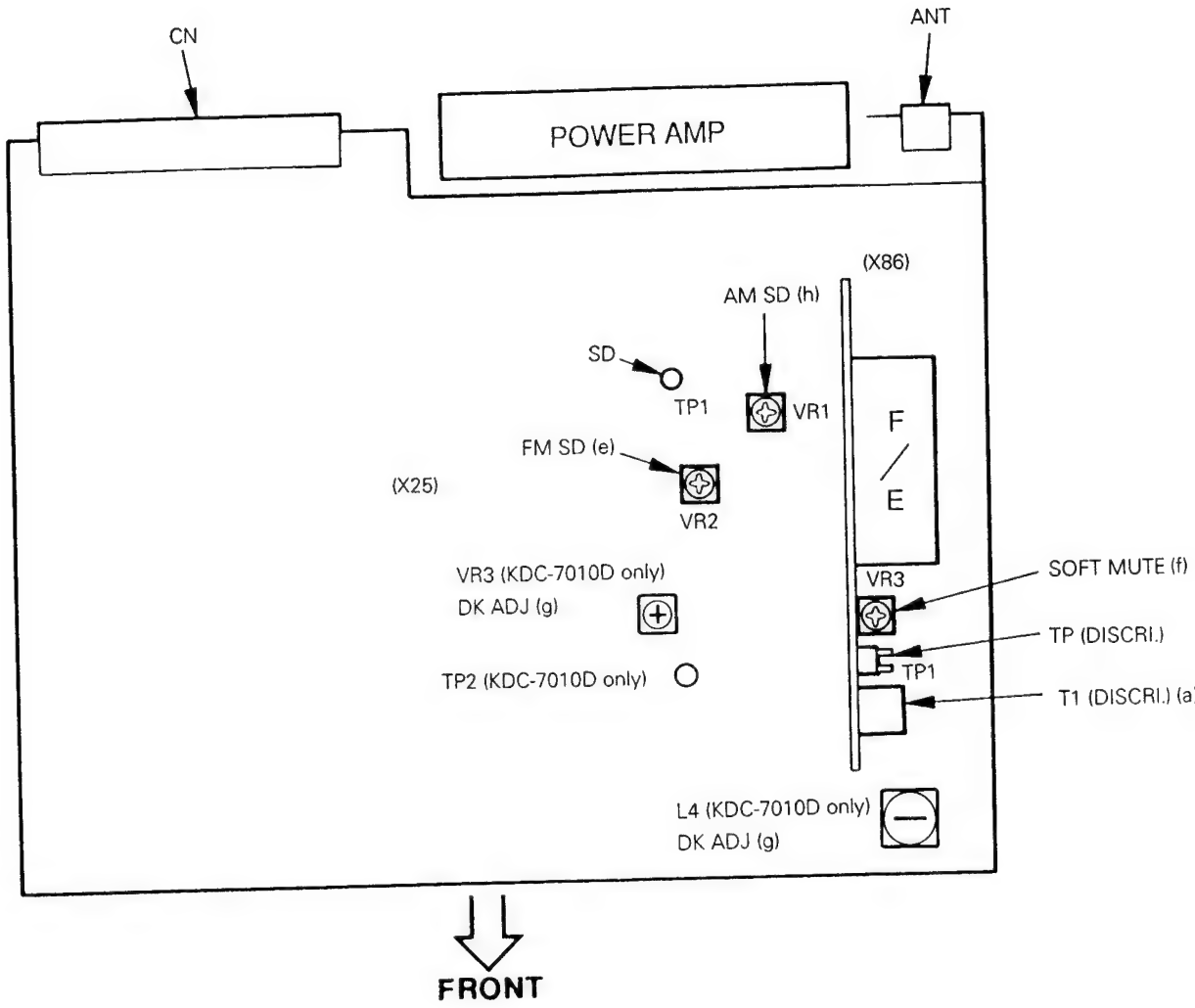


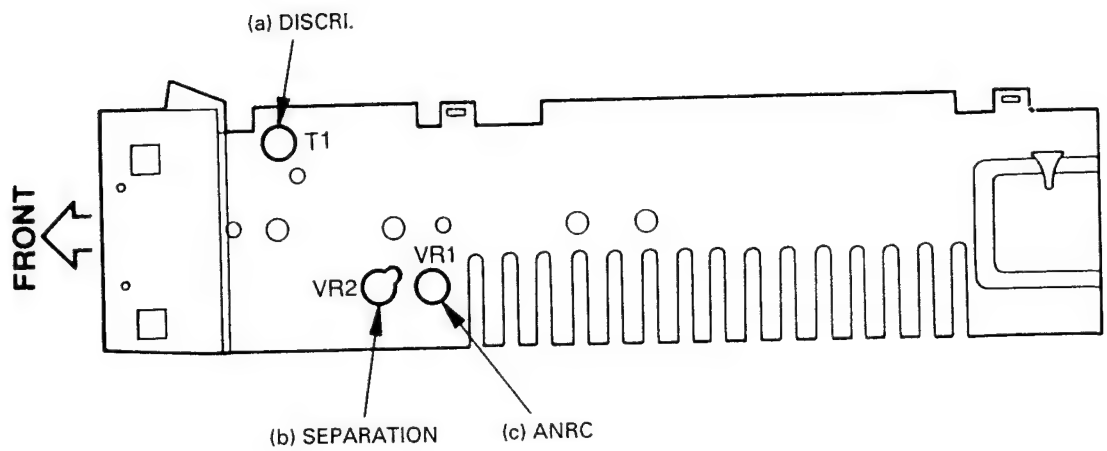
ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION							
1	DISCRIMINATOR	(A) 98.1MHz 0dev 60dBμ(ANT input)	Connect a DC voltmeter to TP1 (X86-).	FM 98.1MHz	T1 (X86-)	0V	(a)
2	SEPARATION	(C) 98.1MHz 1kHz ±40kHz dev Pilot ±6kHz dev Selector : L or R 60dBμ(ANT input)	(B)	FM 98.1MHz	VR2 (X86-)	Adjust it so that the crosstalk from L to R and R to L become minimum.	(b)
3	ANRC	(C) 98.1MHz 1kHz ±40kHz dev Pilot ±6kHz dev Selector : L or R 35dBμ(ANT input)	(B)	FM 98.1MHz	VR1 (X86-)	Separation 10dB	(c)
4	SEEK STOP LEVEL	(A) 98.1MHz 1kHz ±40kHz dev 20dBμ(ANT input)	–	FM SEEK : ON 98.1MHz	VR2 (X25-)	STOP	(e)
5	SOFT MUTE LEVEL	(A) 98.1MHz 1kHz ±40kHz dev 60dBμ→No input	(B)	FM 98.1MHz	VR3 (X86-)	Output noise level –25dB (When not add any signal to ANT terminal.)	(f)
SDK SECTION							
<1>	DK LEVEL	(E) 98.1MHz 0mod SK 5.33% DK 30%, BK 60% 60dBμ(ANT input)	Connect an AC voltmeter to TP2 (X25-).	FM 98.1MHz SDK : ON	L4, VR3 (X25-)	Maximum	(g)
AM SECTION							
(1)	STOP LEVEL	(D) 999kHz 400Hz, 30% mod 35dBμ(ANT input)	–	AM 999kHz	VR1 (X25-)	STOP	(h)



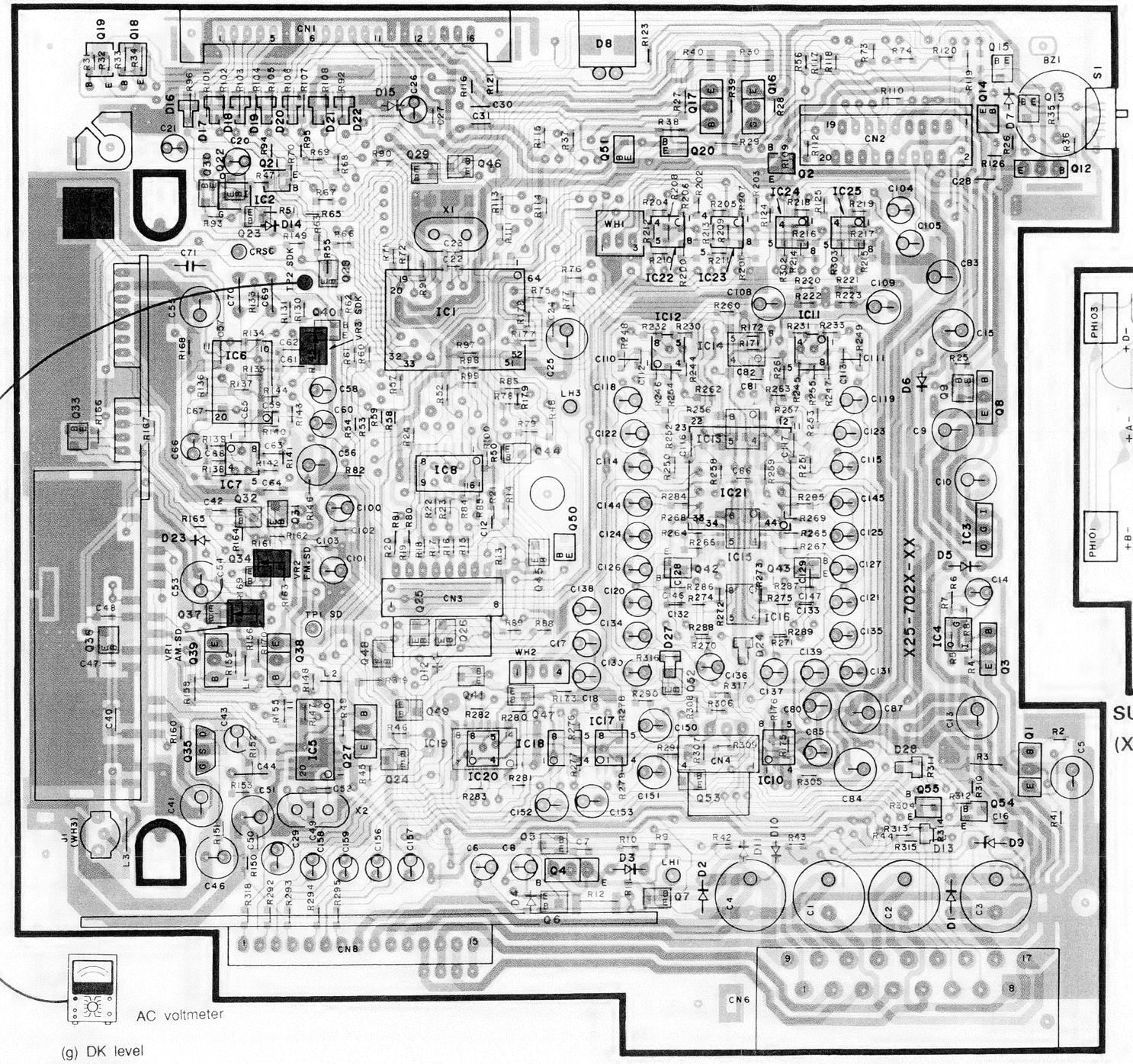
ADJUSTMENT


CN
ANT
POWER AMP
(X86)
AM SD (h)
SD
TP1
VR1
F
/
E
FM SD (e)
(X25)
VR2
VR3 (KDC-7010D only)
DK ADJ (g)
VR3
SOFT MUTE (f)
TP (DISCRI.)
TP2 (KDC-7010D only)
TP1
T1 (DISCRI.) (a)
L4 (KDC-7010D only)
DK ADJ (g)
FRONT


(a) DISCRI.
T1
FRONT
VR1
VR2
(b) SEPARATION
(c) ANRC

PC BOARD (COMPONENT SIDE VIEW)

ELECTRIC UNIT (X25-7022-XX)



AC voltmeter

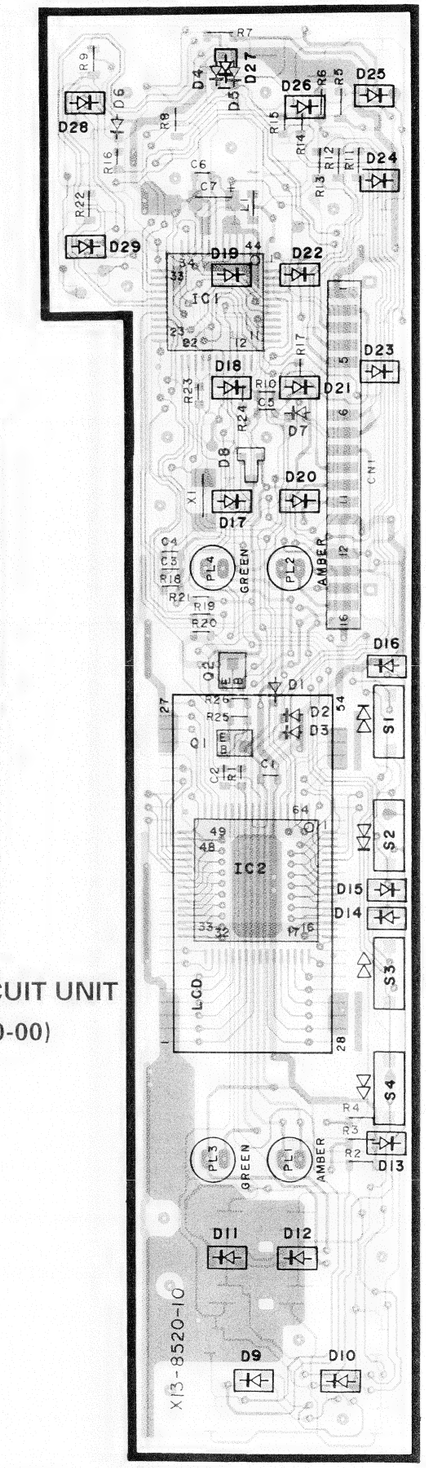
(g) DK level

Maximum

SUB CIRCUIT UNIT

(X13-8530-00)

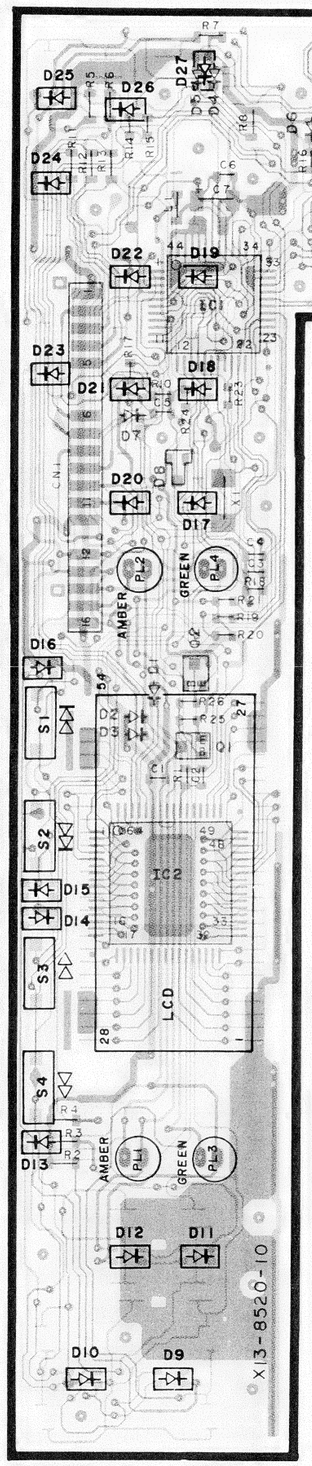
SWITCH UNIT (X13-8520-10)



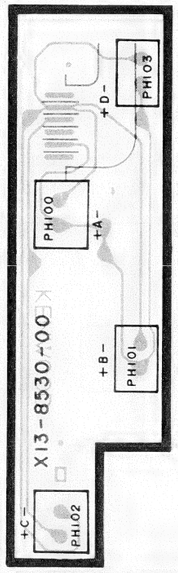
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (FOIL SIDE VIEW)

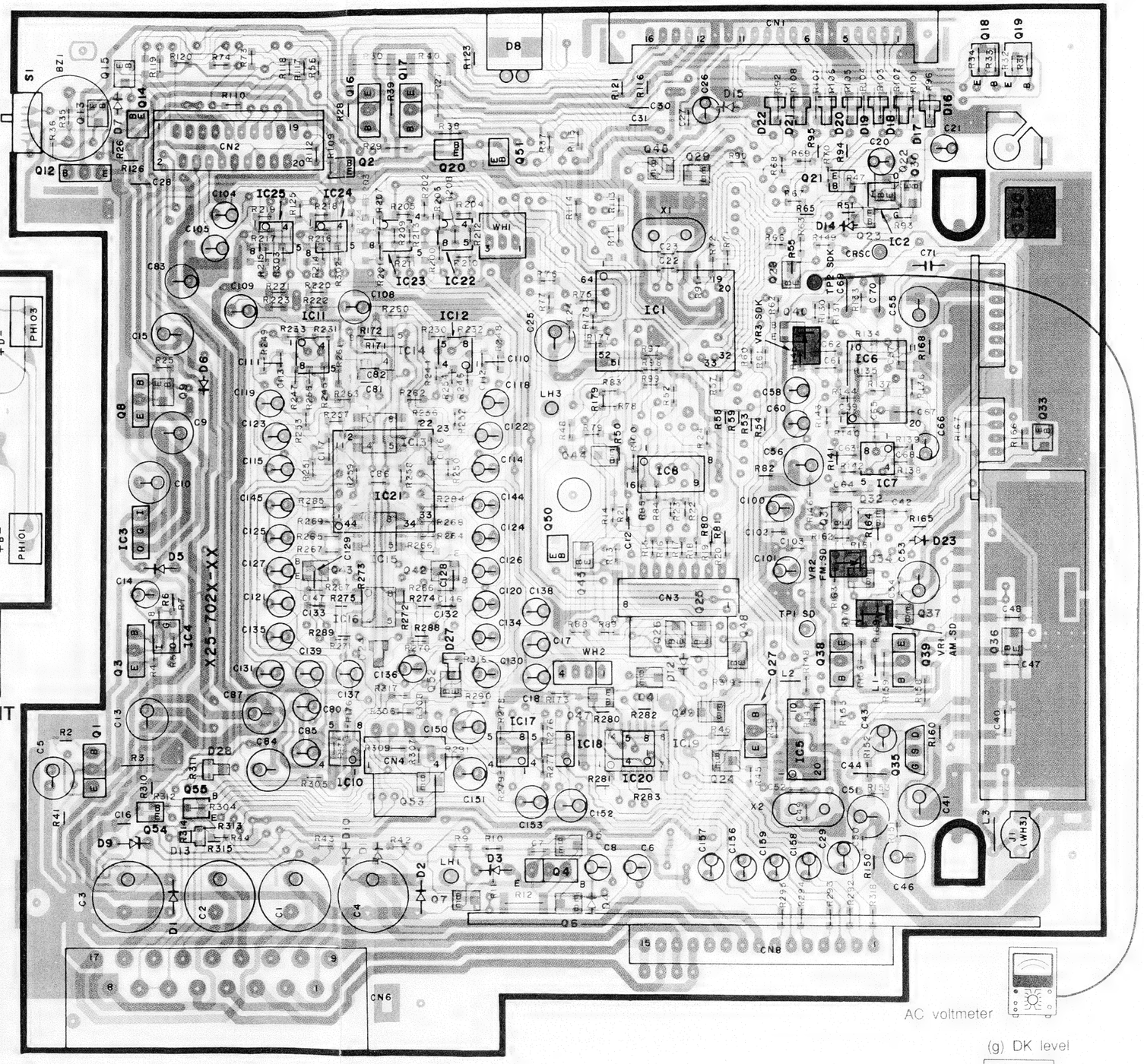
SWITCH UNIT (X13-8520-10)



SUB CIRCUIT UNIT (X13-8530-00)



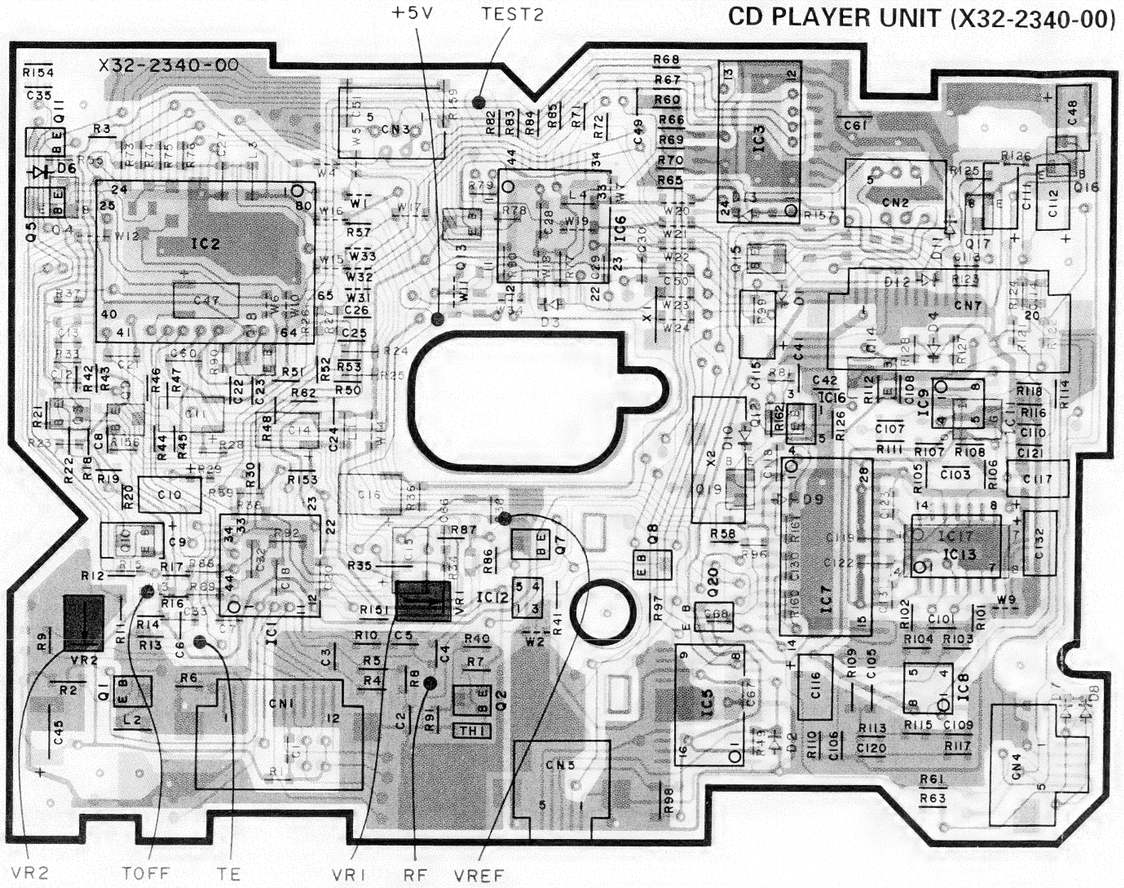
ELECTRIC UNIT (X25-7022-XX)



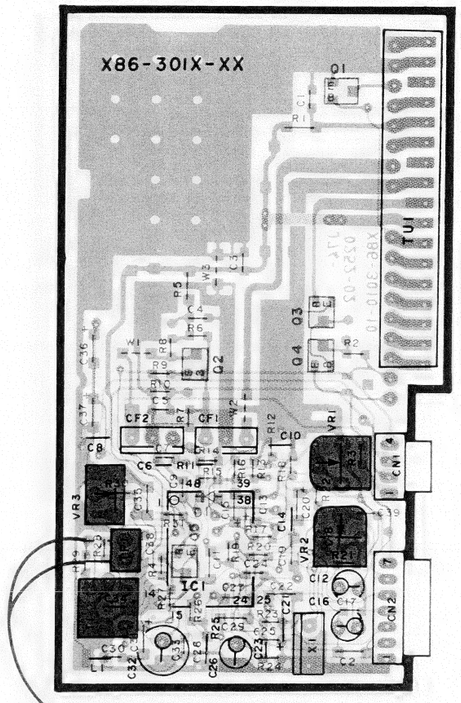
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (COMPONENT SIDE VIEW)

CD PLAYER UNIT (X32-2340-00)



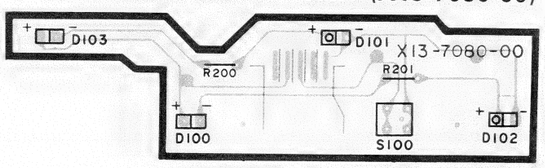
TUNER UNIT (X86-3012-XX)



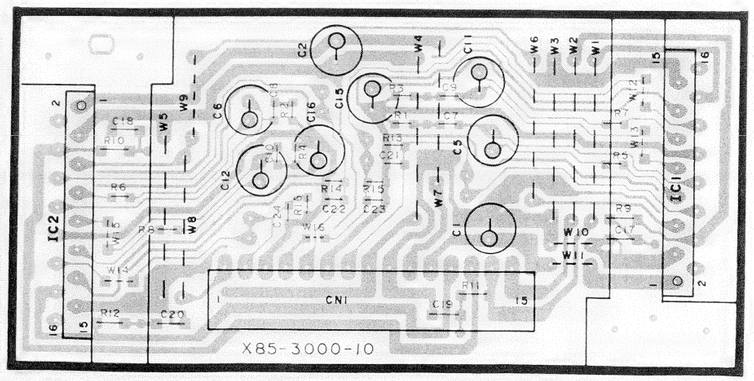
(a) Discriminator

0V

SUB CIRCUIT UNIT (X13-7080-00)



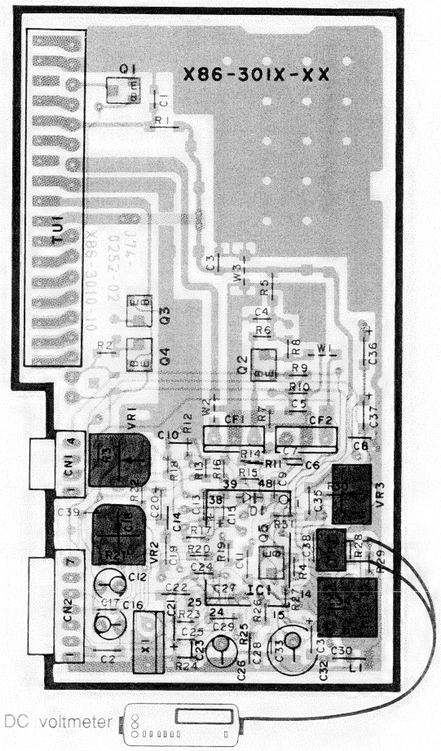
POWER AMPLIFIER UNIT (X85-3000-10)



Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (FOIL SIDE VIEW)

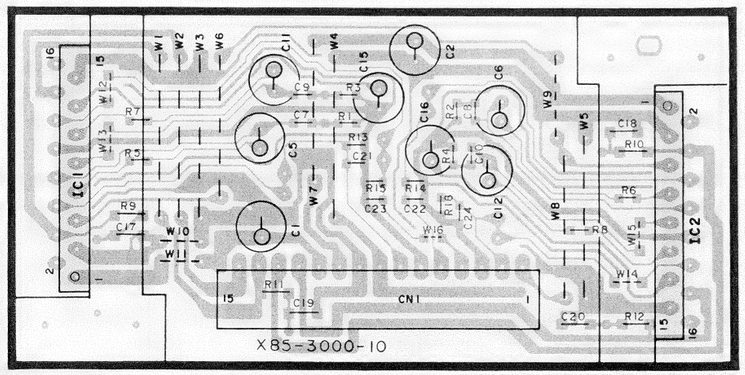
TUNER UNIT (X86-3012-XX)



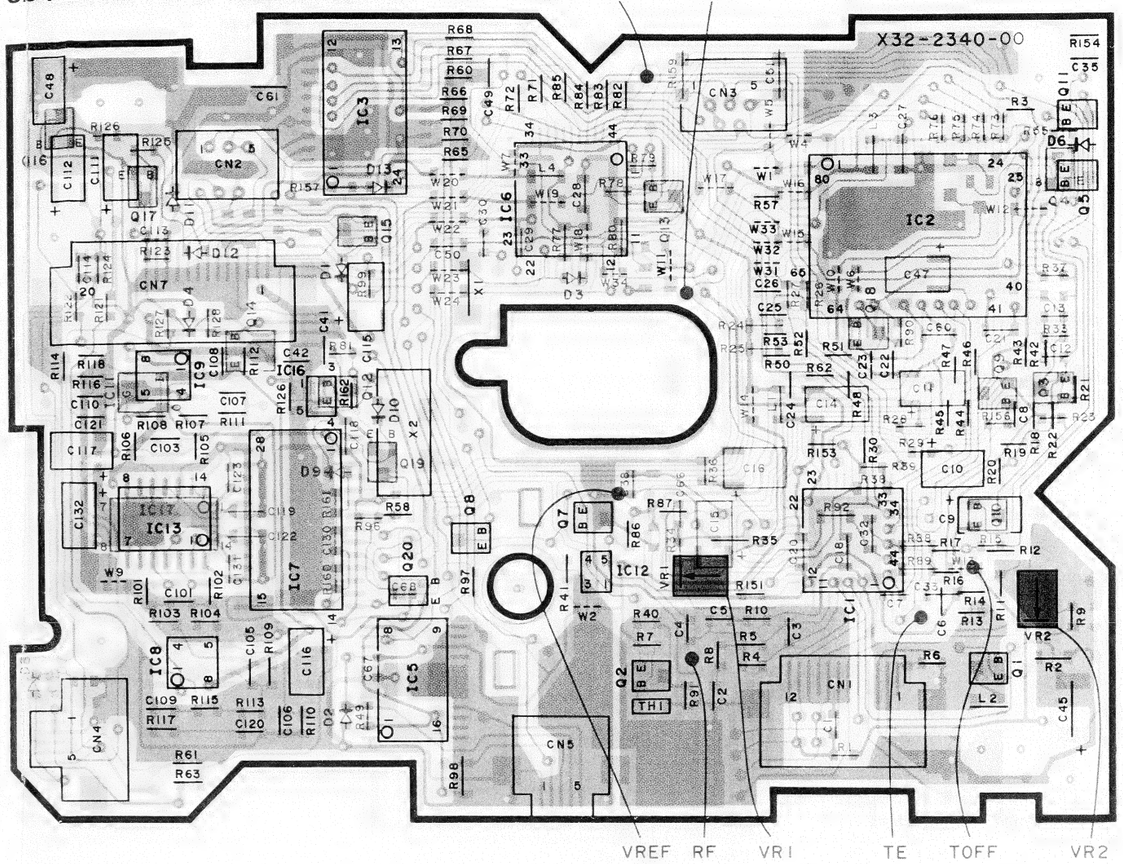
(a) Discriminator

0V

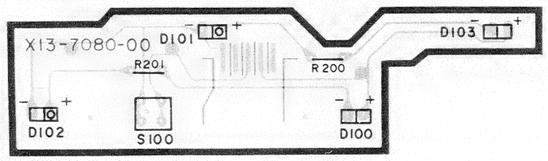
POWER AMPLIFIER UNIT (X85-3000-10)



CD PLAYER UNIT (X32-2340-00)



SUB CIRCUIT UNIT (X13-7080-00)



Refer to the schematic diagram for the values of resistors and capacitors.

(X25-)

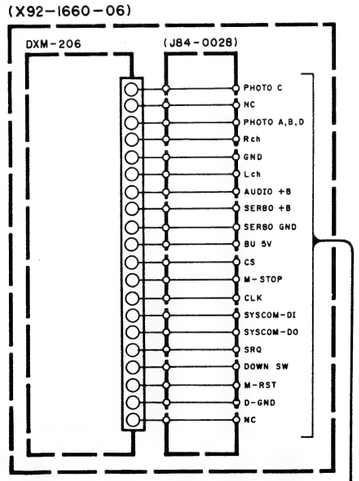
IC1	: 75116GF-G49-3BE
IC2	: S-80737AN-D1
IC3	: M5278D05
IC4	: M5237ML
IC5	: LC7216M
IC6	: TDA1579T
IC7,10~12,14~18,20	: NJM4565MD
IC19	: TC4066BF
IC21	: TC9233FK
IC24,25	: M5201FP
D1~3,5	: ERA15-01
D4,11,14,23	: MA110
D6	: M8082-M
D7	: M8110-M
D8	: B30-1365-05
D9	: RD9.1JS(B2)
D10	: M8068-M
D12,15	: M8062-M
D13,16~22	: DA204K
D24,27,28	: DAP202K
Q1	: 2SB1050
Q2,7	: DTC114EK
Q3,12	: 2SB1370F8
Q4,16,17,27,38,39	: 2SB1277
Q5	: 2SA1037K
Q6,21,24,37,41,47	: XDA124EK or DTA124EK
Q8	: 2SD1266BD
Q9,13,31,32,34,49,52~55	: 2SC2412K
Q22,28,33,36,40,46,50,51	: XDC124EK or DTC124EK
Q23,25,26,48,56	: XDC144EK or DTC144EK
Q29	: 2SA1362(Y)
Q30	: DTA144EK
Q35	: 2SK669
Q42,43	: 2SD757K

(X86-)

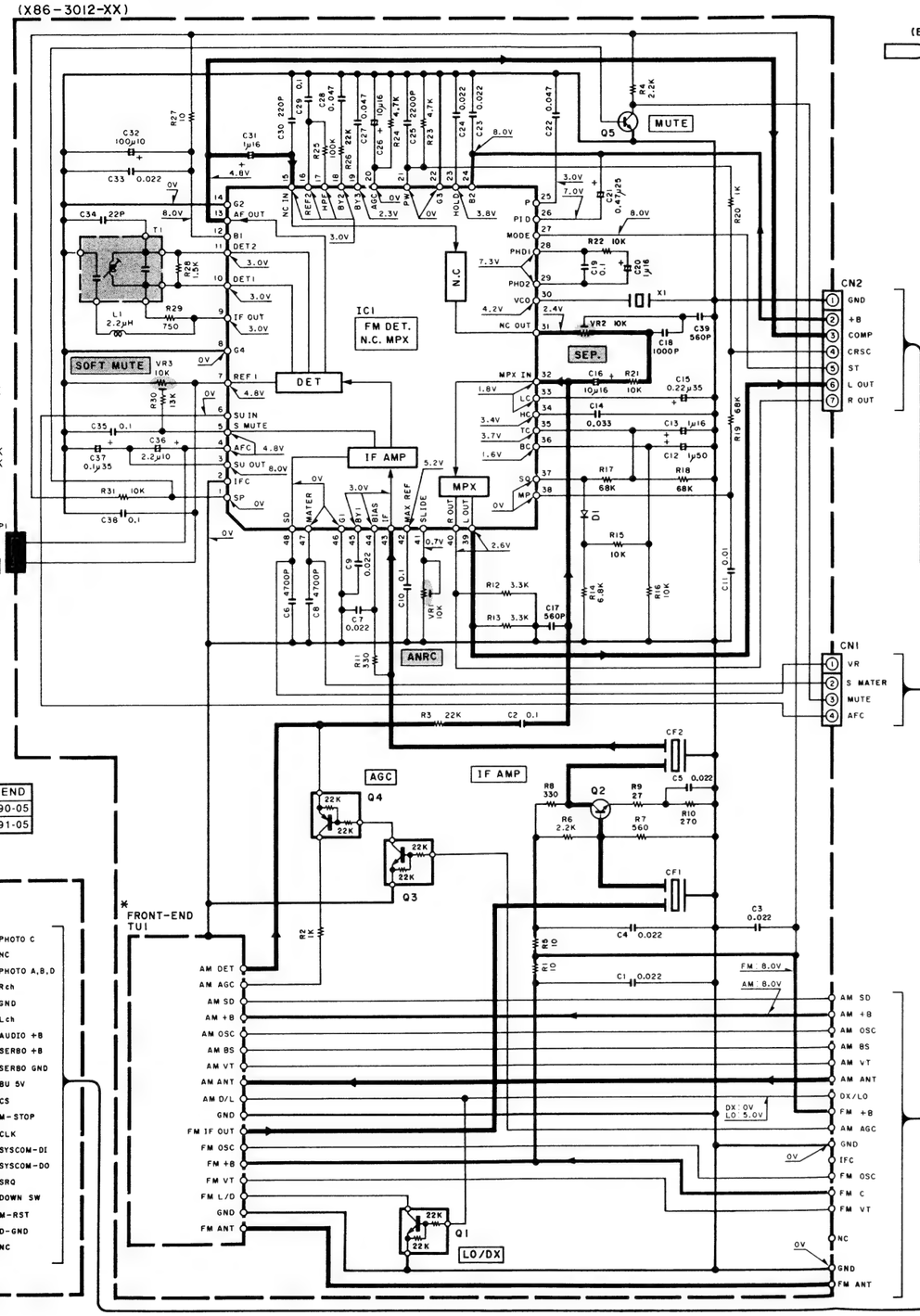
IC1	: TA2027F1
Q1,3	: XDC124EK
Q2	: 2SC2413K
Q4	: XDA124EK
Q5	: 2SC2412K
D1	: MA110

MODEL NAME		X86-3012-XX	FRONT-END
KDC-7010D	E	2-71	W02-1390-05
KDC-7010L	E	2-72	W02-1391-05

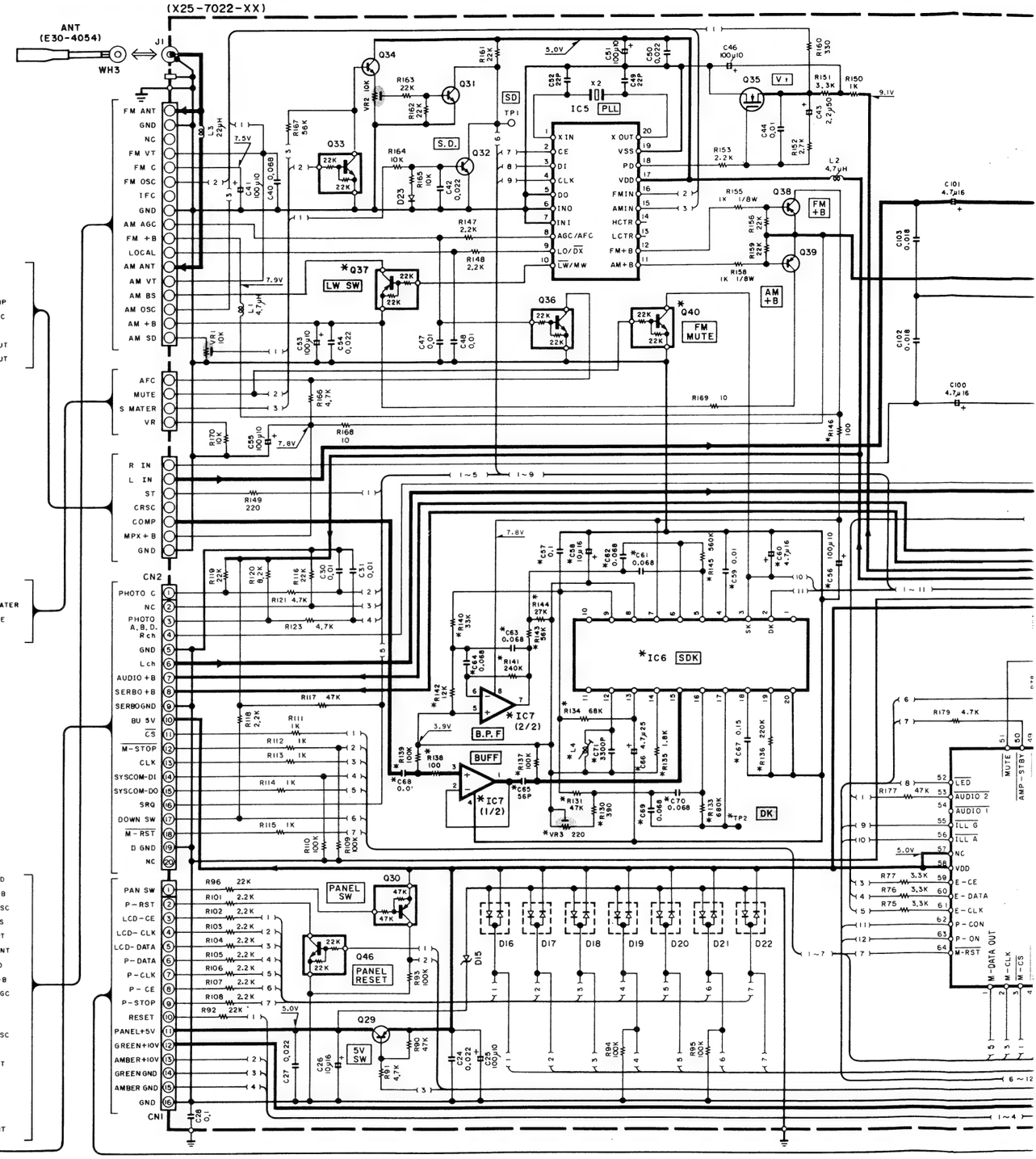
(X92-1660-06)

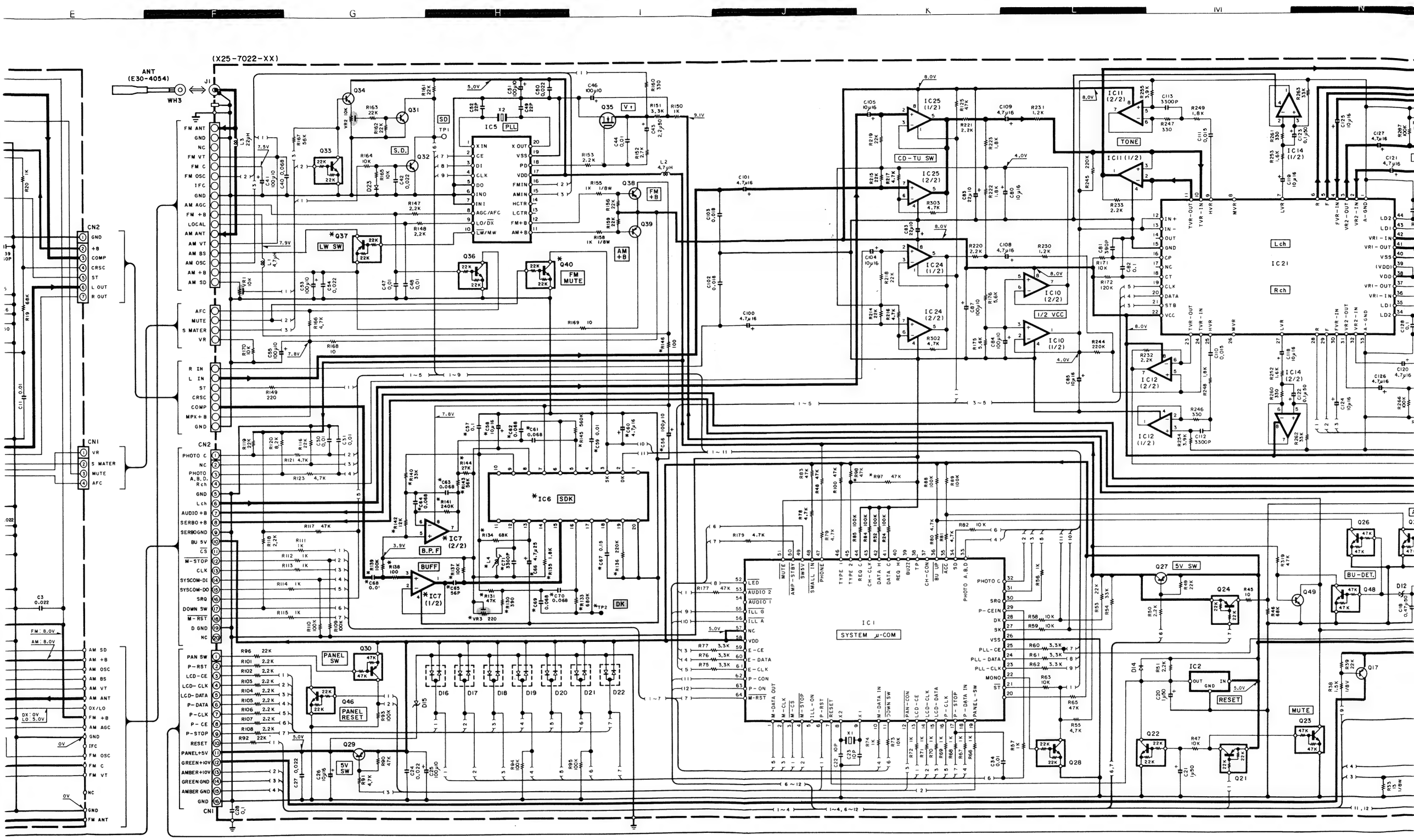


(X86-3012-XX)

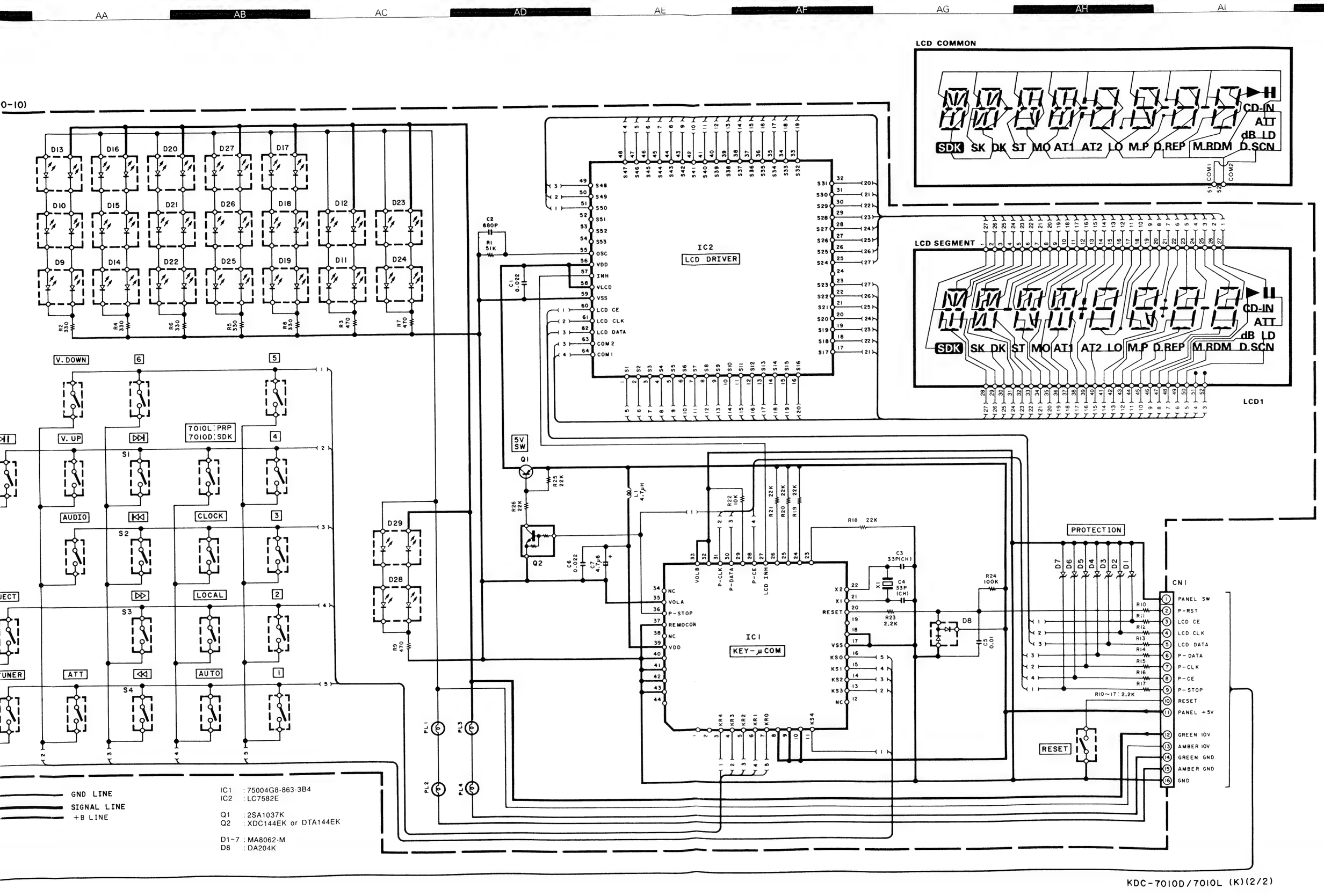


(X25-7022-XX)




(X25-7022-XX)
ANT (E30-4054)
J1
WH3
CN2
CN1
IC1 SYSTEM CON
IC2
IC5 PLL
IC6 SDK
IC7 (2/2)
IC7 (1/2)
IC10 (2/2)
IC10 (1/2)
IC11 (2/2)
IC11 (1/2)
IC12 (2/2)
IC12 (1/2)
IC14 (1/2)
IC14 (2/2)
IC21
IC24 (2/2)
IC24 (1/2)
IC25 (2/2)
IC25 (1/2)
Q31
Q32
Q33
Q34
Q35
Q36
Q37
Q38
Q39
Q40
Q46
Q48
Q49
Q21
Q22
Q23
Q24
Q26
Q27
Q28
Q29
Q30
Q17
D12
D14
D15
D16
D17
D18
D19
D20
D21
D22
SD
S.D.
PLL
B.P.F
BUFF
SDK
DK
FM +B
AM +B
FM MUTE
LW SW
PANEL SW
PANEL RESET
5V SW
CD-TU SW
TONE
1/2 VCC
BU-DET.
MUTE
RESET
Lch
Rch
FM ANT
GND
+B
COMP
CRSC
ST
L OUT
R OUT
VR
S MATER
MUTE
AFC
R IN
L IN
MPX+B
PHOTO C
PHOTO A,B,D.
AUDIO +B
SERBO +B
SERBO GND
BU 5V
M-STOP
CLK
SYSCOM-DI
SYSCOM-DO
SRQ
DOWN SW
M-RST
D GND
PAN SW
P-RST
LCD-CE
LCD-CLK
LCD-DATA
P-DATA
P-CLK
P-CE
P-STOP
RESET
PANEL+5V
GREEN+10V
AMBER+10V
GREEN GND
AMBER GND
FM ANT
AM SD
AM +B
AM OSC
AM BS
AM VT
AM ANT
DX/LO
FM +B
AM AGC
IFC
FM OSC
FM C
FM VT
FM : 8.0V
AM : 8.0V
DX : 0V
LO : 5.0V
0V
9.1V
7.9V
7.8V
7.5V
5.0V
4.0V
3.9V

0-10)



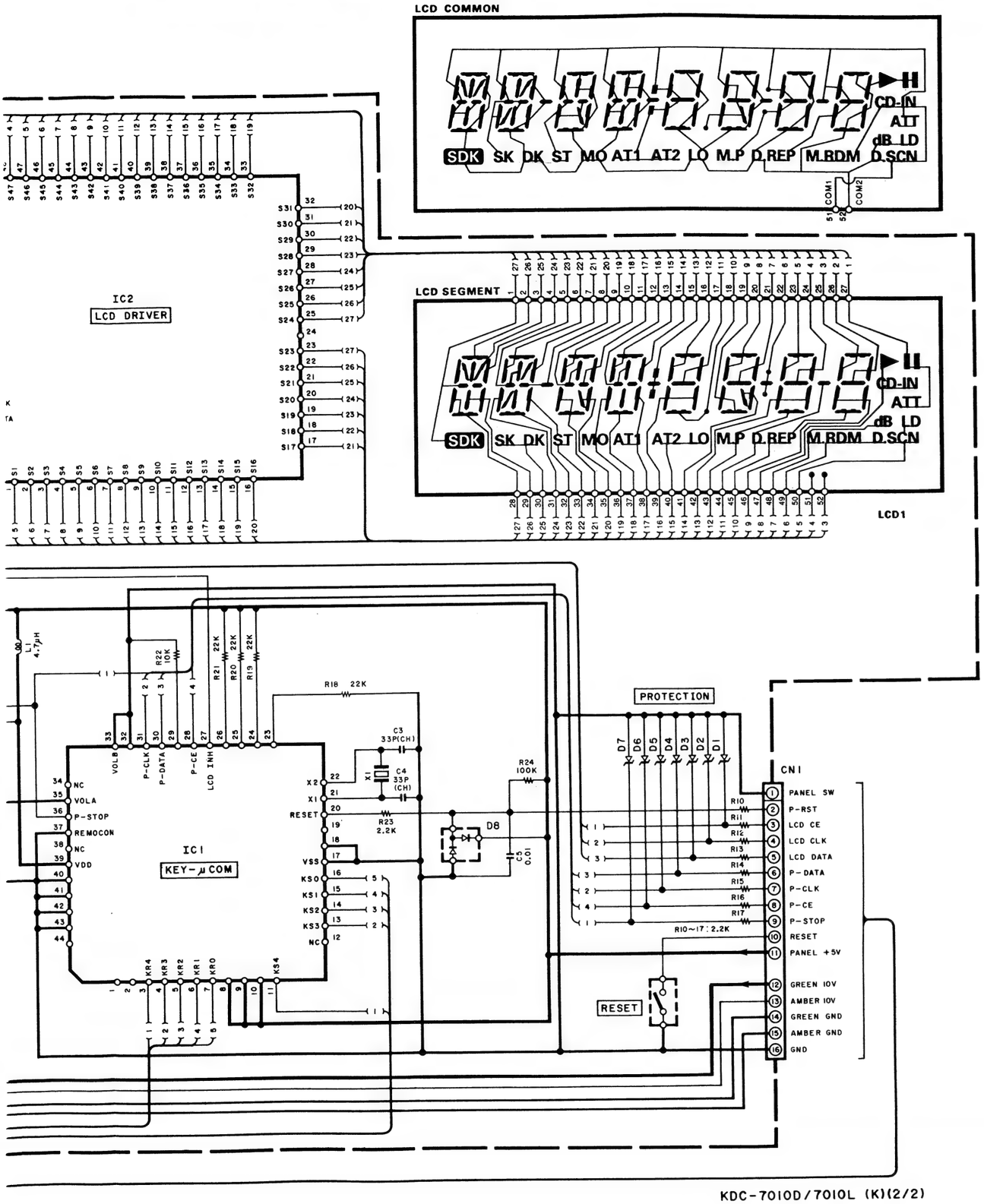
GND LINE
SIGNAL LINE
+B LINE

IC1 : 75004G8-863-3B4
IC2 : LC7582E

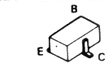
Q1 : 2SA1037K
Q2 : XDC144EK or DTA144EK

D1~7 : MA8062-M
D8 : DA204K

KDC-7010D/7010L (K)(2/2)

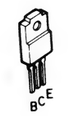


DTA124EK XDC124EK
DTA144EK XDC144EK
DTC114EK 2SA1362
DTC114YK 2SB624
DTC124EK 2SC2412K
DTC144EK 2SC2413K
XDA124EK 2SD1757K

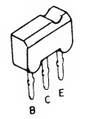


2SD1624

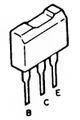
2SB1370F8
2SD1266BD



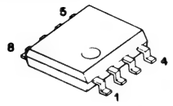
2SB1050



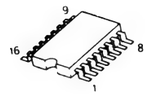
2SB1277



M5201FP
NJM4565MD
NJM5532MD

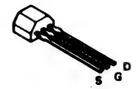


TA7291F

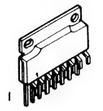


TA78L05F

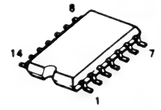
2SK669



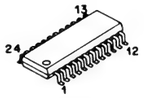
AN7174K



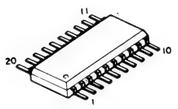
TC4066BF
TC74AC04F



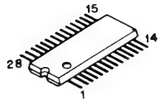
AN8388SR



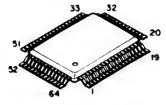
LC7216M



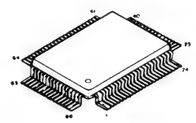
SM5871AS



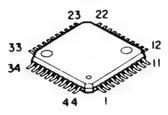
75116GF-G49-3BE



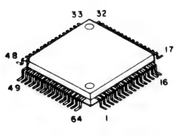
TC9233FK



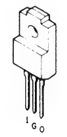
TA8191F
TC9233FK
75004GB-863-3B4
75008GB-696-3B4



LC7582E

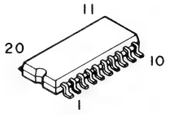


M5278D05

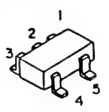


M5237ML

TDA1579T



TC7SU04F



- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KDC-7010D/7010L (K)(2/2)

KDC-7010D/L
KENWOOD

CD MECHA. ASS'Y (X92-1660-0X)
(X32-2340-00)

SIGNAL LINE
GND LINE
+B LINE

IC2
SIGNAL PROCESSOR

IC6
MAIN CPU

IC7

IC16

IC12

IC17

IC13

IC11

IC8 (1/2)

IC8 (2/2)

IC9 (2/2)

IC9 (1/2)

IC5
MOTOR DRIVER

IC3
MOTOR DRIVER

VR1
FOCUS OFFSET

LPF

MUTE

AVR

CN7

CN6

CN5

from X25-1 CN2

PH100~103 : PT-4611I

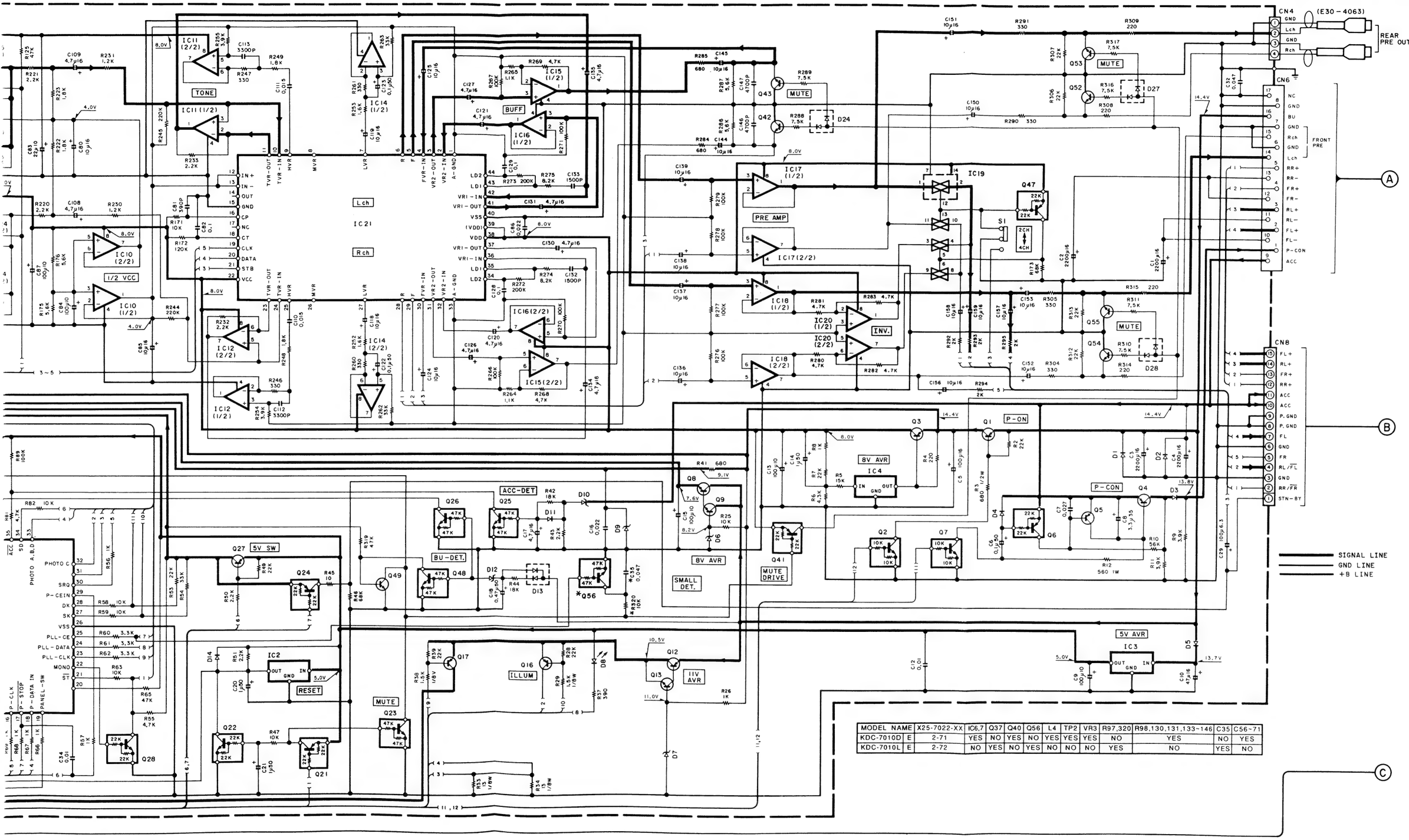
D100~103 : 830-1365-05

CLAMP SW

LOAD MOTOR

(X13-8530-00)

LED UNIT (X13-7080-00)



MODEL NAME	X25-7022-XX	IC6,7	Q37	Q40	Q56	L4	TP2	VR3	R97,320	R98,130,131,133~146	C35	C56~71
KDC-7010D E	2-71	YES	NO	YES	NO	YES	YES	YES	NO	YES	NO	YES
KDC-7010L E	2-72	NO	YES	NO	YES	NO	NO	NO	YES	NO	YES	NO

KDC-7010D/7010L (K)(1/2)

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

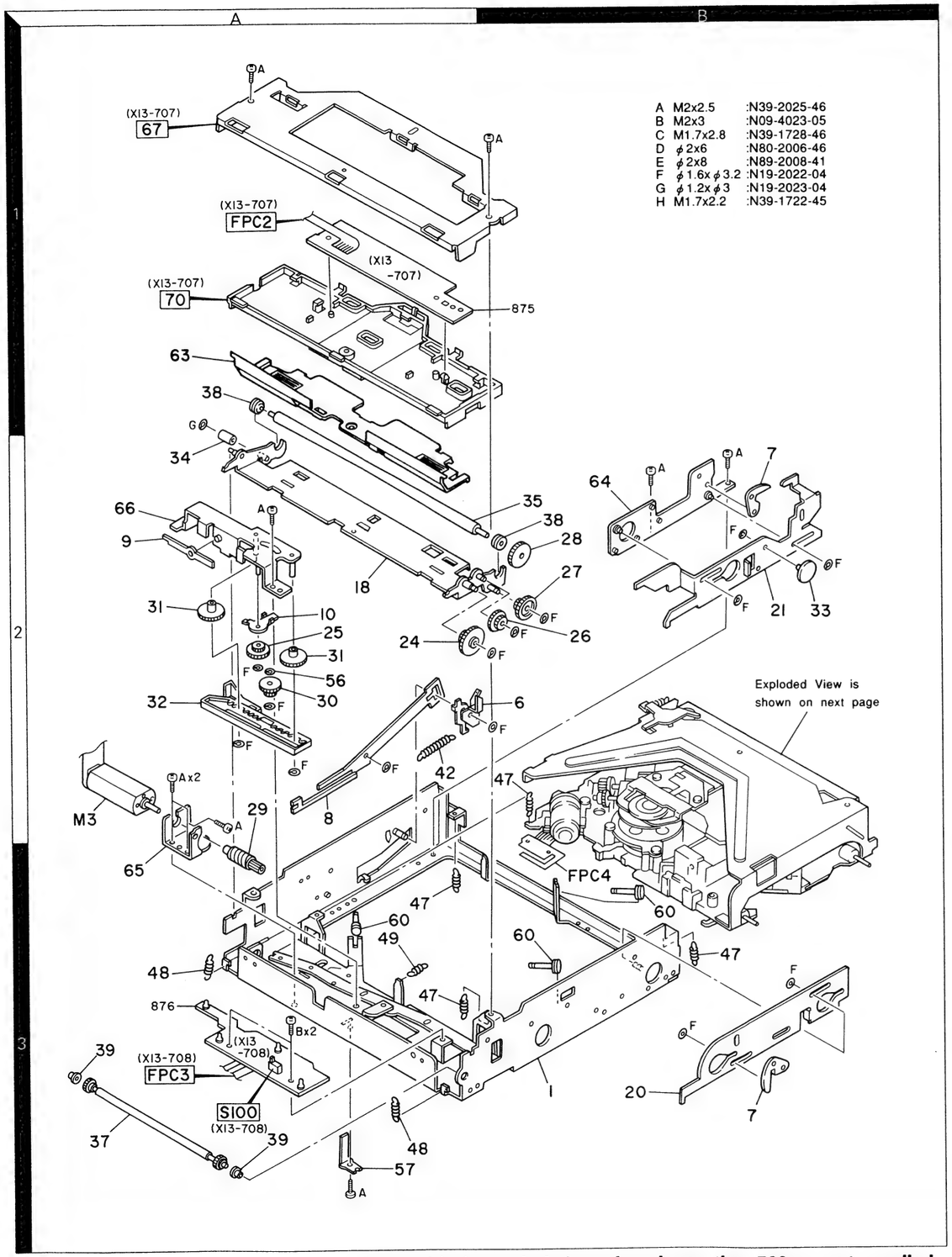
- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Y22-3232-71

KDC-7010D/L

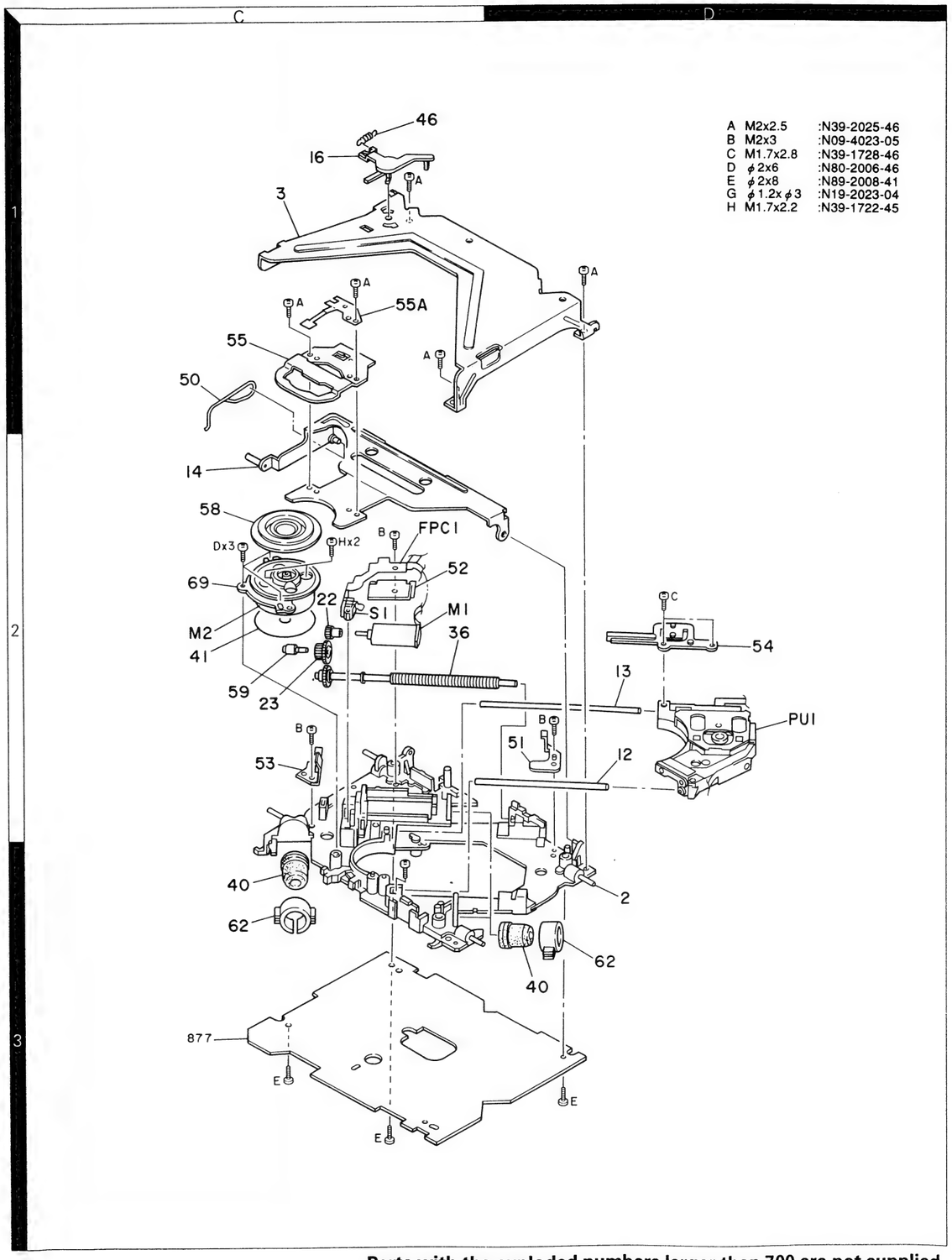
KENWOOD

EXPLODED VIEW (MECHANISM)



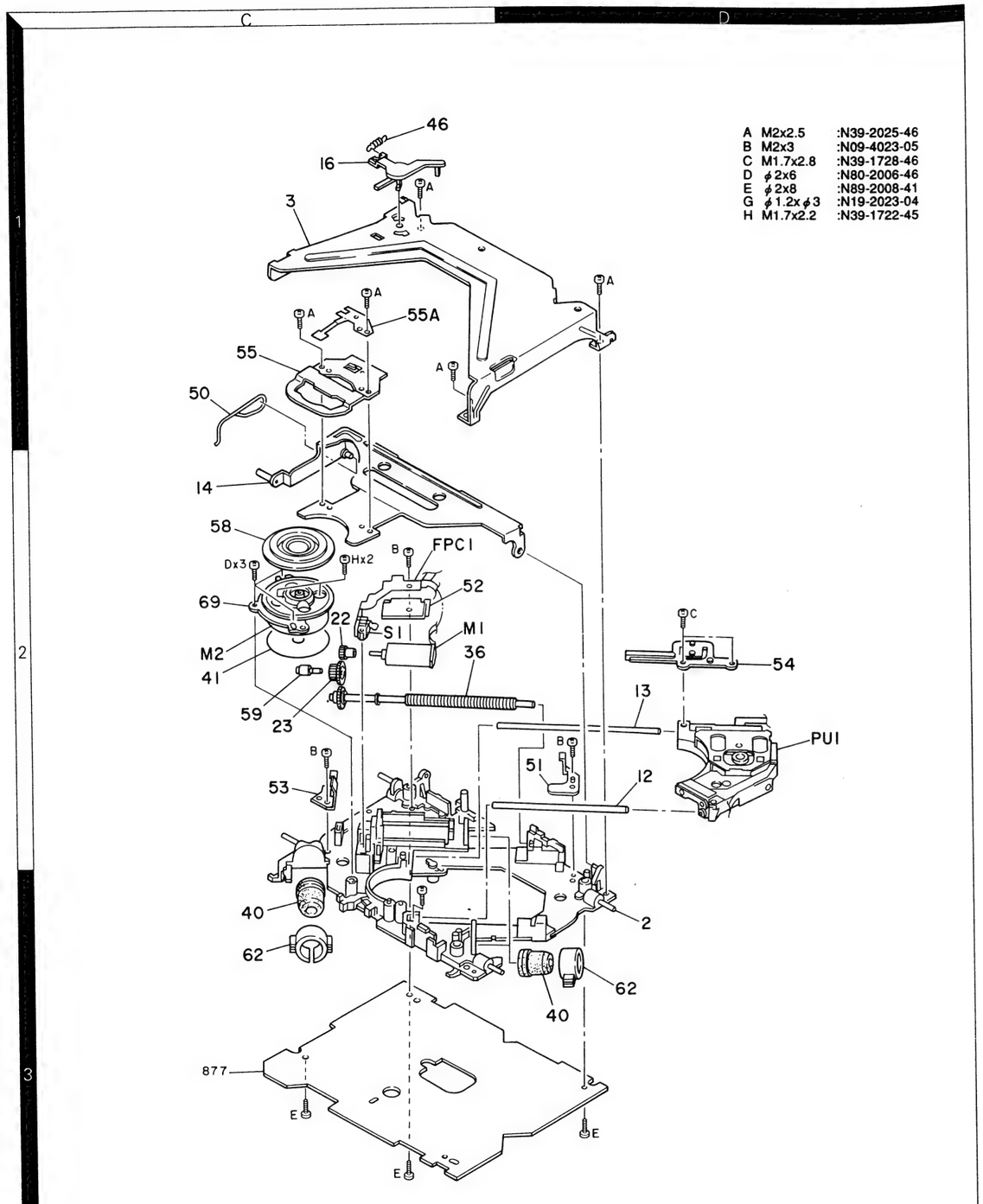
Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

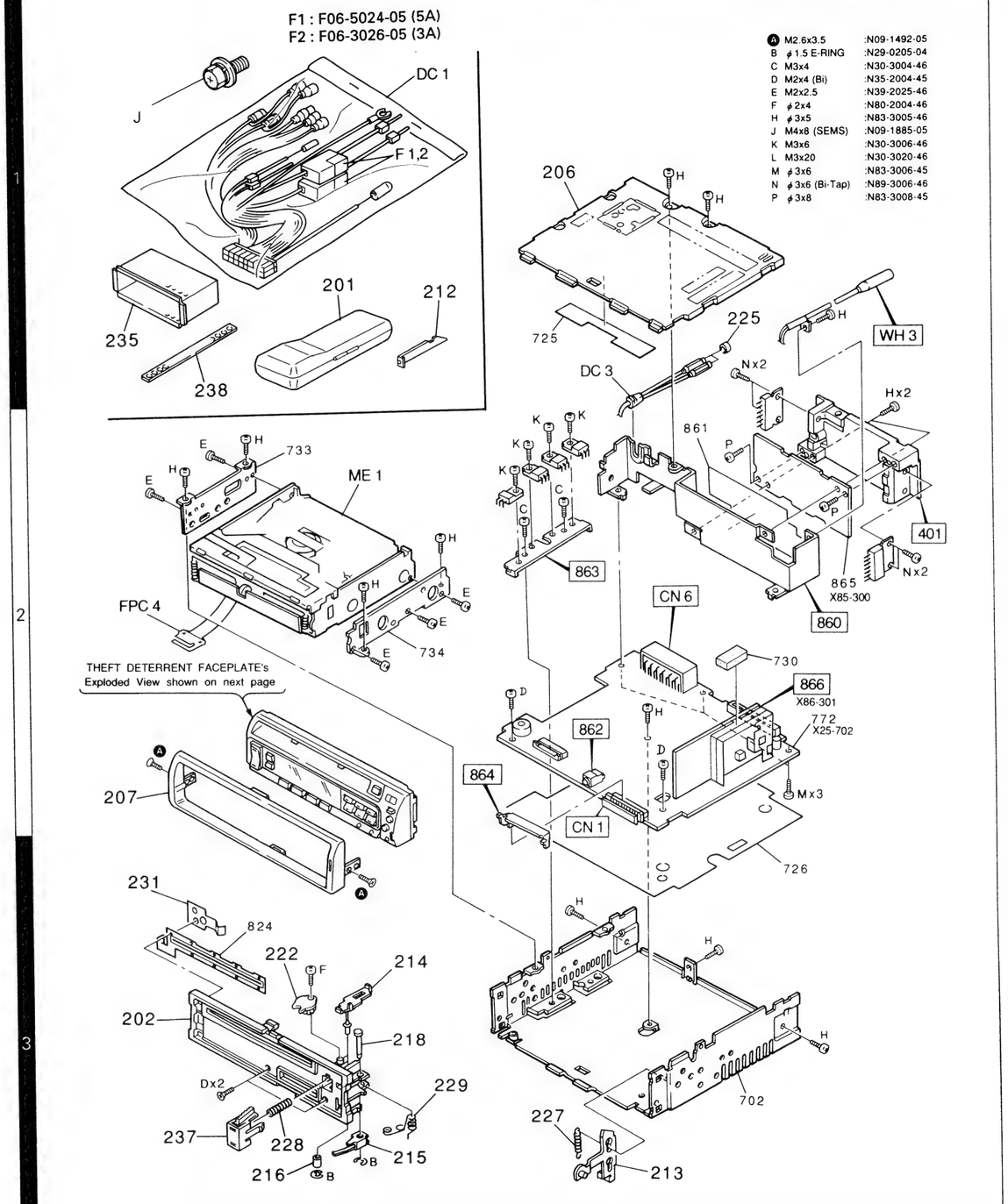
EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

KDC-7010D/L

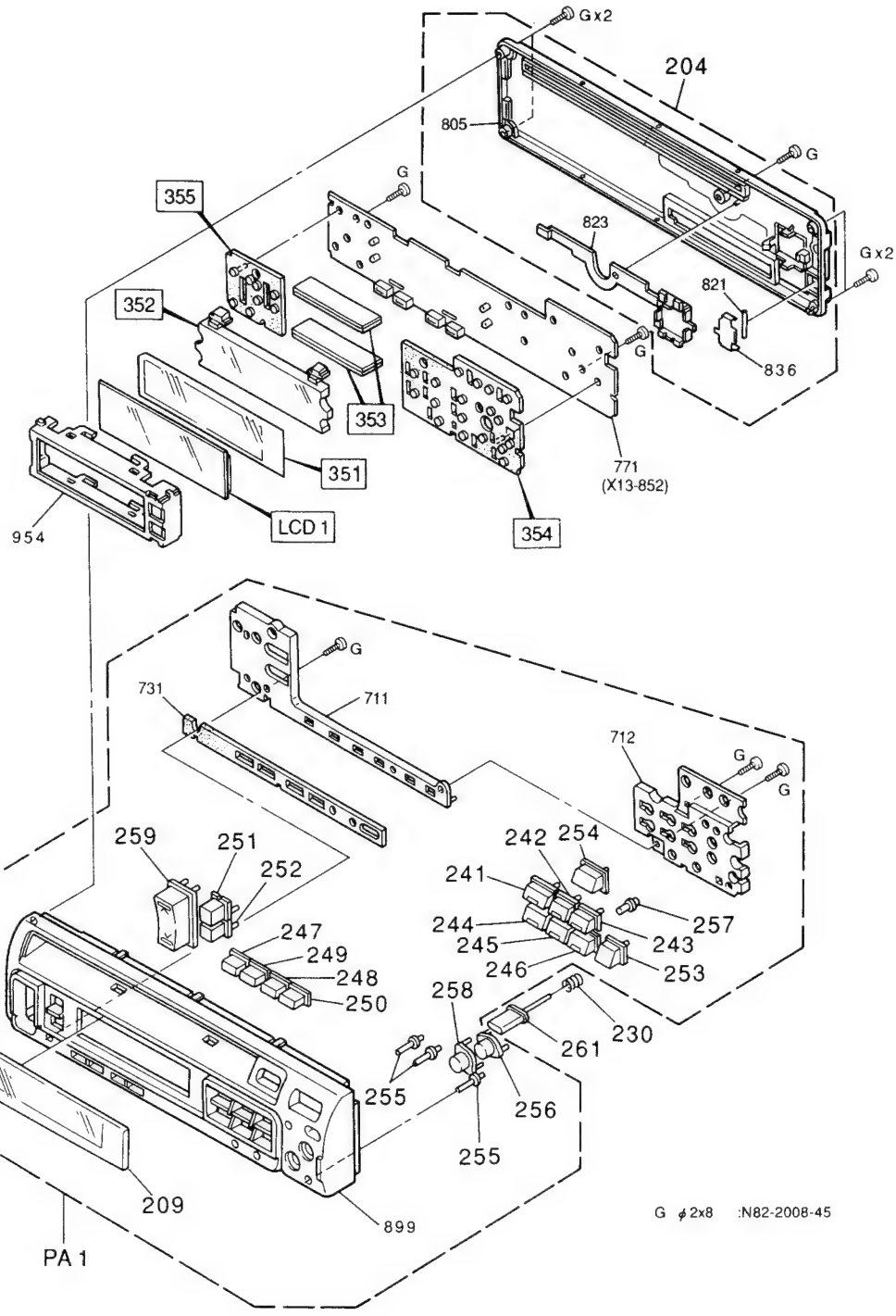
EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

pplied.

EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
KDC-7010D/L						
201	1E		A02-1421-01	PLASTIC CABINET		
202	3E	*	A22-1209-03	SUB PANEL ASSY		
204	1H	*	A46-1210-03	REAR COVER ASSY		
206	1F	*	A52-0651-02	TOP PLATE		
PA1	3G	*	A64-0027-02	PANEL ASSY	7010D	
PA1	3G	*	A64-0028-02	PANEL ASSY	7010L	
207	2E	*	B07-2032-02	ESCUTCHEON		
209	3G	*	B10-1558-03	FRONT GLASS		
-			B46-0100-20	WARRANTY CARD		
-			B46-0182-14	ID CARD	7010D	
-		*	B64-0282-00	INST. MANUAL(ENG,FRA,GER)		
-		*	B64-0283-00	INST. MANUAL(NETH,ITA,SPA)		
212	1E		D10-2548-14	LEVER		
213	3F		D10-2684-24	LEVER		
214	3E	*	D10-2784-24	LEVER ASSY		
215	3E		D10-2785-14	LEVER		
216	3E		D14-0634-04	ROLLER		
218	3E		D21-2132-14	SHAFT		
222	1E		D39-0211-05	DAMPER		
DC1	1E	*	E30-4060-05	DC CORD		
DC3	1F	*	E30-4063-05	AUDIO CORD		
225	1F		F29-0049-05	INSULATING COVER		
227	3F		G01-2040-04	EXTENSION SPRING		
228	3E		G01-2633-04	COMPRESSION SPRING		
229	3E	*	G01-2637-34	TORSION COIL SPRING		
230	3H		G01-2645-04	COMPRESSION SPRING		
231	3E	*	G02-1161-04	SPRING		
-		*	H10-4439-02	POLYSTYRENE FOAMED FIXTURE		
-			H25-0329-04	PROTECTION BAG (280X450X0.03)		
-			H25-0336-04	PROTECTION BAG (170X250X0.03)		
-		*	H54-0069-04	ITEM CARTON CASE	7010D	
-		*	H54-0070-04	ITEM CARTON CASE	7010L	
-		*	H64-0076-04	OUTER CARTON CASE	7010D	
-		*	H64-0077-04	OUTER CARTON CASE	7010L	
235	1E		J21-7425-01	MOUNTING HARDWARE		
237	3E		J52-0037-14	MAGNET CATCH		
238	1E		J54-0059-04	STAY		
241	3H	*	K24-1198-04	KNOB(1)		
242	3H	*	K24-1199-04	KNOB(2)		
243	3H	*	K24-1200-04	KNOB(3)		
244	3H	*	K24-1201-04	KNOB(4)		
245	3H	*	K24-1202-04	KNOB(5)		
246	3H	*	K24-1203-04	KNOB(6)		
247	3G	*	K24-1204-04	KNOB(M.D)		
248	3G	*	K24-1205-04	KNOB(T.D)		
249	3G	*	K24-1206-04	KNOB(M.U)		
250	3G	*	K24-1207-04	KNOB(T.U)		
251	3G	*	K24-1208-04	KNOB(AUDIO)		
252	3G	*	K24-1209-04	KNOB(ATT)		

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

× New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
253	3H	*	K24-1210-04	KNOB(PLAY)		
254	3H	*	K24-1211-04	KNOB(EJECT)		
255	3H	*	K24-1212-04	KNOB(AUTO)		
256	3H	*	K24-1213-03	KNOB(TUN)		
257	3H	*	K24-1216-04	KNOB(RESET)		
258	3H	*	K24-1214-03	KNOB(SDK)	7010D	
258	3H	*	K24-1288-03	KNOB(PRP)	7010L	
259	3G	*	K25-0621-04	KNOB(VOL.)		
261	3H		K24-1197-04	KNOB(OPEN)		
A	2E		N09-1492-05	MACHINE SCREW (2.6X3.5)		
B	3E		N29-0205-04	RETAINING RING (1.5ﾏﾙ)		
C	2F		N30-3004-46	PAN HEAD MACHINE SCREW		
D	3F		N35-2004-45	BINDING HEAD MACHINE SCREW		
E	2E		N39-2025-46	PAN HEAD MACHIN SCREW		
F	3E		N80-2004-46	PAN HEAD TAPTITE SCREW		
G	1H,2H		N82-2008-45	BINDIG HEAD TAPTITE SCREW		
H	1F,2E		N83-3005-46	PAN HEAD TAPTITE SCREW		
J	1E		N09-1885-05	SEMS (MACHINE SCREW)		
ME1	2E	*	X92-1660-06	MECHANISM ASSY		
SUB CIRCUIT UNIT IN MECHANISM ASS'Y (X13-7080-00)						
D100-103	3A		B30-1365-05	LED		
FPC3	3A		J84-0023-02	FLEXIBLE PRINTED WIRING BOARD		
R200,201	3A		RD14BB2C471J	RD 470 J 1/6W		
S100	3A		S40-1140-05	PUSH SWITCH		
SWITCH UNIT (X13-8520-10)						
351	2G	*	B11-0848-04	OPTICAL DIFFUSER		
352	2G	*	B19-0925-03	LIGHTING BOARD		
D9 -29			B30-1349-05	LED		
LCD1		*	B38-0584-05	LIQUID CRYSTAL		
PL1 ,2			B30-1305-05	LAMP (5.5V .125A)		
PL3 ,4			B30-1306-05	LAMP (5.5V .125A)		
C1			CK73FB1H223KTA	CHIP C 0.022UF K		
C2			CK73FB1H681K	CHIP C 680PF K		
C3 ,4			CC73FCH1H330J	CHIP C 33PF J		
C5			CK73FB1H103K	CHIP C 0.010UF K		
C6			CK73FB1H223KTA	CHIP C 0.022UF K		
C7			C92-0015-05	CHIP-TAN 2.2UF 6.3WV		
353	1G	*	E29-1408-04	CONDUCTIVE RUBBER		
354	1H	*	E29-1391-03	CONDUCTIVE RUBBER		
355	1G	*	E29-1390-03	CONDUCTIVE RUBBER		
CN1			E59-0807-15	RECTANGULAR PLUG		
L1			L33-0916-05	SMALL FIXED INDUCTOR		
X1			L78-0505-05	RESONATOR		
R1			RK73FB2A513J	CHIP R 51K J 1/10W		
R2			RK73EB2B331J	CHIP R 330 J 1/8W		
R3			RK73EB2B471J	CHIP R 470 J 1/8W		
R4 -6			RK73EB2B331J	CHIP R 330 J 1/8W		
R7			RK73EB2B471J	CHIP R 470 J 1/8W		
R8			RK73EB2B331J	CHIP R 330 J 1/8W		

E: Europe W: Without Europe P: Canada X: Australia
K: U.S.A. and Canada M: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
R9			RK73EB2B471J	CHIP R 470 J 1/8W		
R10			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R11 -13			RK73EB2B222J	CHIP R 2.2K J 1/8W		
R14 -17			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R18 -21			RK73FB2A223J	CHIP R 22K J 1/10W		
R22			RK73EB2B103J	CHIP R 10K J 1/8W		
R23			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R24			RK73FB2A104J	CHIP R 100K J 1/10W		
R25 ,26			RK73FB2A223J	CHIP R 22K J 1/10W		
S1 -4			S70-0808-05	TACT SWITCH		
D1 -7			MA8062-M	ZENER DIODE		
D8			DA204K	DIODE		
IC1			75004GB-863-3B4	IC		
IC2			LC7582E	IC(LCD DRIVER)		
Q1			2SA1037K	TRANSISTOR		
Q2			DTC144EK	DIGITAL TRANSISTOR		
Q2			XDC144EK	TRANSISTOR		
SUB CIRCUIT UNIT MECHANISM ASS'Y (X13-8530-00)						
67	1A		J21-7279-02	MOUNTING HARDWARE		
70	1A		J90-0726-02	GUIDE		
FPC2	1A		J84-0022-03	FLEXIBLE PRINTED WIRING BOARD		
PH100-103	1A		PT-461I1	PHOTO TRANSISTOR		
ELECTRIC UNIT (X25-7022-XX) -71 : 7010D, -72 : 7010L						
D8			B30-1365-05	LED		
C1 -4			C90-2765-05	ELECTRO 2200UF 16WV		
C5			CE04NW1C101M	ELECTRO 100UF 16WV		
C6			CE04NW1H0R1M	ELECTRO 0.1UF 50WV		
C7			CK73FB1E273KTA	CHIP C 0.027UF K		
C8			CE04NW1V3R3M	ELECTRO 3.3UF 35WV		
C9			CE04CW1A101M	ELECTRO 100UF 10WV		
C10			CE04CW1C470M	ELECTRO 47UF 16WV		
C12			CK73FB1H103K	CHIP C 0.010UF K		
C13			CE04CW1A101M	ELECTRO 100UF 10WV		
C14			CE04CW1H010M	ELECTRO 1.0UF 50WV		
C15			CE04CW1A101M	ELECTRO 100UF 10WV		
C16			CK73FB1H223KTA	CHIP C 0.022UF K		
C17			C90-2595-05	ELECTRO 4.7UF 16WV		
C18			C90-2606-05	ELECTRO 0.47UF 50WV		
C20			CE04NW1H010M	ELECTOR 1.0UF 50WV		
C21			CE04CW1H010M	ELECTRO 1.0UF 50WV		
C22 ,23			CC73FCH1H100D	CHIP C 10PF D		
C24			CK73FB1H223KTA	CHIP C 0.022UF K		
C25			CE04CW1A101M	ELECTRO 100UF 10WV		
C26			CE04NW1C100M	ELECTRO 10UF 16WV		
C27			CK73FB1H223KTA	CHIP C 0.022UF K		
C28			CK73EB1E104K	CHIP C 0.10UF K		
C29			CE04NW0J101M	ELECTRO 100UF 6.3WV		
C30 ,31		*	CK73EB1H103K	CHIP C 0.01UF K		
C40			CK73EB1H683K	CHIP C 0.068UF K		
C41			CE04NW1A101M	ELECTRO 100UF 10WV		
C42			CK73FB1H223KTA	CHIP C 0.022UF K		
C43			C90-2610-05	ELECTRO 2.2UF 50WV		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C44			C91-2040-05	CERAMIC 0.010UF Z		
C46			CE04NW1A101M	ELECTRO 100UF 10WV		
C47 ,48			CK73FB1H103K	CHIP C 0.010UF K		
C49			CC73FCH1H220J	CHIP C 22PF J		
C50			CK73FB1H223KTA	CHIP C 0.022UF K		
C51			CE04CW1A101M	ELECTRO 100UF 10WV		
C52			CC73FCH1H220J	CHIP C 22PF J		
C53			CE04NW1A101M	ELECTRO 100UF 10WV		
C54			CK73FB1H223KTA	CHIP C 0.022UF K		
C55			CE04NW1A101M	ELECTRO 100UF 10WV		
C56			CE04CW1A101M	ELECTRO 100UF 10WV	7010D	
C57			CK73EB1E104K	CHIP C 0.10UF K	7010D	
C58			C90-2597-05	ELECTRO 10UF 16WV	7010D	
C59			CK73FB1H103K	CHIP C 0.010UF K	7010D	
C60			C90-2595-05	ELECTRO 4.7UF 16WV	7010D	
C61 -64			C93-0026-05	CHIP C 0.068UF 50WV	7010D	
C65			CC73FSL1H560J	CHIP C 56PF J	7010D	
C66			CE04NW1E4R7M	ELECTRO 4.7UF 25WV	7010D	
C67			CK73DB1H154K	CHIP C 0.15UF K	7010D	
C68			CK73FB1H103K	CHIP C 0.010UF K	7010D	
C69 ,70			C91-2050-05	CERAMIC 0.068UF Z	7010D	
C71			CQ93AP2A332J	POLYPRO 3300PF J	7010D	
C80			C90-2597-05	ELECTRO 10UF 16WV		
C81		*	CC73FSL1H391J	CHIP C 390PF J		
C82			CK73EB1E104K	CHIP C 0.10UF K		
C83			CE04CW1A220M	ELECTRO 22UF 10WV		
C84			CE04CW1A101M	ELECTRO 100UF 10WV		
C85			C90-2597-05	ELECTRO 10UF 16WV		
C86			CK73FB1H223KTA	CHIP C 0.022UF K		
C87			CE04CW1A101M	ELECTRO 100UF 10WV		
C100,101			C90-2595-05	ELECTRO 4.7UF 16WV		
C102,103			CK73FB1H183KTA	CHIP C 0.018UF K		
C104,105			C90-2597-05	ELECTRO 10UF 16WV		
C108,109			C90-2595-05	ELECTRO 4.7UF 16WV		
C110,111			CK73EB1H153K	CHIP C 0.015UF K		
C112,113			CK73FB1H332K	CHIP C 3300PF K		
C118,119			C90-2597-05	ELECTRO 10UF 16WV		
C120,121			C90-2595-05	ELECTRO 4.7UF 16WV		
C122,123			C90-2602-05	ELECTRO 0.1UF 50WV		
C124,125			C90-2597-05	ELECTRO 10UF 16WV		
C126,127			C90-2595-05	ELECTRO 4.7UF 16WV		
C128,129			CK73EB1E104K	CHIP C 0.10UF K		
C130,131			C90-2595-05	ELECTRO 4.7UF 16WV		
C132,133			CK73FB1H152K	CHIP C 1500PF K		
C134,135			C90-2595-05	ELECTRO 4.7UF 16WV		
C136-139			C90-2597-05	ELECTRO 10UF 16WV		
C144,145			C90-2597-05	ELECTRO 10UF 16WV		
C146,147			C93-1036-05	CERAMIC 4700PF K		
C150-153			C90-2597-05	ELECTRO 10UF 16WV		
C156-159			CE04NW1C100M	ELECTRO 10UF 16WV		
CN1			E58-0817-15	RECTANGULAR RECEPTACLE		
CN2		*	E40-9254-05	FLAT CABLE CONNCTOR		
CN4			E40-3301-05	PIN ASSY		
CN6		*	E58-0822-05	RECTANGULAR RECEPTACLE		
CN8		*	E40-9279-05	PIN ASSY		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
J1		*	E04-0154-05	RF COAXIAL CABLE RECEPTACLE		
TP1			E23-0136-05	TERMINAL	7010L	
TP1 ,2			E23-0136-05	TERMINAL	7010D	
WH3	1F	*	E30-4054-05	CORD WITH PLUG (ANT)		
LH1			J19-2826-05	HOLDER		
L1 ,2			L40-4791-31	SMALL FIXED INDUCTOR(4.7UH)		
L3			L40-2201-16	SMALL FIXED INDUCTOR		
L4			L39-0156-05	TRAP COIL	7010D	
X1			L77-1167-05	CRYSTAL RESONATOR		
X2			L77-1166-05	CRYSTAL RESONATOR		
H	1F		N83-3005-46	PAN HEAD TAPTITE SCREW		
K	2F		N30-3006-46	PAN HEAD MACHINE SCREW		
L	2F		N30-3020-46	PAN HEAD MACHINE SCREW		
M	2F		N83-3006-45	PAN HEAD TAPTITE SCREW		
R2			RK73FB2A223J	CHIP R 22K J 1/10W		
R3			R92-2063-05	CHIP R 680 J 1/2W		
R4			RK73EB2B221J	CHIP R 220 J 1/8W		
R5			RK73FB2A153J	CHIP R 15K J 1/10W		
R6			RK73FB2A432J	CHIP R 4.3K J 1/10W		
R7			RK73FB2A223J	CHIP R 22K J 1/10W		
R8			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R9			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R10			RK73FB2A563J	CHIP R 56K J 1/10W		
R11			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R12			R92-0366-05	CHIP R 560 J 1W		
R24			RK73FB2A104J	CHIP R 100K J 1/10W		
R25			RK73FB2A103J	CHIP R 10K J 1/10W		
R26			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R28			RK73FB2A223J	CHIP R 22K J 1/10W		
R29			RK73EB2B152J	CHIP R 1.5K J 1/8W		
R33 ,34			RK73EB2B130J	CHIP R 13 J 1/8W		
R37			RK73FB2A391J	CHIP R 390 J 1/10W		
R38			RK73EB2B152J	CHIP R 1.5K J 1/8W		
R39			RK73FB2A223J	CHIP R 22K J 1/10W		
R41			RK73FB2A681J	CHIP R 680 J 1/10W		
R42			RK73FB2A183J	CHIP R 18K J 1/10W		
R43			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R44			RK73FB2A183J	CHIP R 18K J 1/10W		
R45			RK73FB2A100J	CHIP R 10 J 1/10W		
R46			RK73FB2A683J	CHIP R 68K J 1/10W		
R47			RK73FB2A103J	CHIP R 10K J 1/10W		
R48			RK73FB2A473J	CHIP R 47K J 1/10W		
R49			RK73FB2A223J	CHIP R 22K J 1/10W		
R50 ,51			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R52			RK73FB2A104J	CHIP R 100K J 1/10W		
R53			RK73FB2A223J	CHIP R 22K J 1/10W		
R54			RK73FB2A333J	CHIP R 33K J 1/10W		
R55			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R56 ,57			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R58 ,59			RK73FB2A103J	CHIP R 10K J 1/10W		
R60 -62			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R63			RK73FB2A103J	CHIP R 10K J 1/10W		
R65			RK73FB2A473J	CHIP R 47K J 1/10W		
R66 -72			RK73FB2A102J	CHIP R 1.0K J 1/10W		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

× New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
R73			RK73FB2A103J	CHIP R 10K J 1/10W		
R74			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R75 -77			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R78 -81			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R82			RK73FB2A103J	CHIP R 10K J 1/10W		
R83			RK73FB2A473J	CHIP R 47K J 1/10W		
R84 ,85			RK73FB2A104J	CHIP R 100K J 1/10W		
R88 ,89			RK73FB2A104J	CHIP R 100K J 1/10W		
R90			RK73FB2A473J	CHIP R 47K J 1/10W		
R91			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R92			RK73EB2B223J	CHIP R 22K J 1/8W		
R93 -95			RK73FB2A104J	CHIP R 100K J 1/10W		
R96			RK73EB2B223J	CHIP R 22K J 1/8W		
R97			RK73FB2A473J	CHIP R 47K J 1/10W	7010L	
R98			RK73FB2A473J	CHIP R 47K J 1/10W	7010D	
R100			RK73FB2A473J	CHIP R 47K J 1/10W		
R101-108			RK73EB2B222J	CHIP R 2.2K J 1/8W		
R109,110			RK73FB2A104J	CHIP R 100K J 1/10W		
R111-115			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R116			RK73FB2A223J	CHIP R 22K J 1/10W		
R117			RK73FB2A473J	CHIP R 47K J 1/10W		
R118			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R119			RK73FB2A223J	CHIP R 22K J 1/10W		
R120			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R121			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R123			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R125			RK73FB2A473J	CHIP R 47K J 1/10W		
R130			RK73FB2A391J	CHIP R 390 J 1/10W	7010D	
R131			RK73FB2A473J	CHIP R 47K J 1/10W	7010D	
R133			RK73FB2A684J	CHIP R 680K J 1/10W	7010D	
R134			RK73FB2A683J	CHIP R 68K J 1/10W	7010D	
R135			RK73FB2A182J	CHIP R 1.8K J 1/10W	7010D	
R136			RK73FB2A224J	CHIP R 220K J 1/10W	7010D	
R137			RK73FB2A104J	CHIP R 100K J 1/10W	7010D	
R138			RK73FB2A101J	CHIP R 100 J 1/10W	7010D	
R139			RK73FB2A104J	CHIP R 100K J 1/10W	7010D	
R140			RK73FB2A333J	CHIP R 33K J 1/10W	7010D	
R141			RK73FB2A244J	CHIP R 240K J 1/10W	7010D	
R142			RK73FB2A123J	CHIP R 12K J 1/10W	7010D	
R143			RK73FB2A563J	CHIP R 56K J 1/10W	7010D	
R144			RK73FB2A273J	CHIP R 27K J 1/10W	7010D	
R145			RK73FB2A564J	CHIP R 560K J 1/10W	7010D	
R146			RK73FB2A101J	CHIP R 100 J 1/10W	7010D	
R147,148			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R149			RK73FB2A221J	CHIP R 220 J 1/10W		
R150			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R151			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R152			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R153			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R155			RK73EB2B102J	CHIP R 1.0K J 1/8W		
R156			RK73EB2B223J	CHIP R 22K J 1/8W		
R158			RK73EB2B102J	CHIP R 1.0K J 1/8W		
R159			RK73EB2B223J	CHIP R 22K J 1/8W		
R160			RK73FB2A331J	CHIP R 330 J 1/10W		
R161-163			RK73FB2A223J	CHIP R 22K J 1/10W		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components

PARTS LIST

× New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
R164,165			RK73FB2A103J	CHIP R 10K J 1/10W		
R166			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R167			RK73FB2A563J	CHIP R 56K J 1/10W		
R168,169			RK73FB2A100J	CHIP R 10 J 1/10W		
R170,171			RK73FB2A103J	CHIP R 10K J 1/10W		
R172			RK73FB2A124J	CHIP R 120K J 1/10W		
R173			RK73FB2A683J	CHIP R 68K J 1/10W		
R175,176			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R177			RK73FB2A473J	CHIP R 47K J 1/10W		
R179			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R214,215			RK73FB2A223J	CHIP R 22K J 1/10W		
R216,217			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R218,219			RK73FB2A223J	CHIP R 22K J 1/10W		
R220,221			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R222,223			RK73FB2A182J	CHIP R 1.8K J 1/10W		
R230,231			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R232,233			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R244,245			RK73FB2A224J	CHIP R 220K J 1/10W		
R246,247			RK73FB2A331J	CHIP R 330 J 1/10W		
R248,249			RK73FB2A182J	CHIP R 1.8K J 1/10W		
R252,253			RK73FB2A162J	CHIP R 1.6K J 1/10W		
R254,255			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R260,261			RK73FB2A331J	CHIP R 330 J 1/10W		
R262,263			RK73FB2A333J	CHIP R 33K J 1/10W		
R264,265			RK73FB2A112J	CHIP R 1.1K J 1/10W		
R266,267			RK73FB2A104J	CHIP R 100K J 1/10W		
R268,269			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R270,271			RK73FB2A104J	CHIP R 100K J 1/10W		
R272,273			RK73FB2A204J	CHIP R 200K J 1/10W		
R274,275			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R276-279			RK73FB2A104J	CHIP R 100K J 1/10W		
R280-283			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R284,285			RK73FB2A681J	CHIP R 680 J 1/10W		
R286,287			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R288,289			RK73FB2A752J	CHIP R 7.5K J 1/10W		
R290,291			RK73FB2A331J	CHIP R 330 J 1/10W		
R292-295			RK73FB2A202J	CHIP R 2.0K J 1/10W		
R302,303			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R304,305			RK73FB2A331J	CHIP R 330 J 1/10W		
R306,307			RK73FB2A223J	CHIP R 22K J 1/10W		
R308,309			RK73FB2A221J	CHIP R 220 J 1/10W		
R310,311			RK73FB2A752J	CHIP R 7.5K J 1/10W		
R312,313			RK73FB2A223J	CHIP R 22K J 1/10W		
R314,315			RK73FB2A221J	CHIP R 220 J 1/10W		
R316,317			RK73FB2A752J	CHIP R 7.5K J 1/10W		
R318			RK73FB2A473J	CHIP R 47K J 1/10W		
R319			RK73EB2B473J	CHIP R 47K J 1/8W		
VR1 ,2			R12-6423-05	TRIM POT. 10K		
VR3			R12-6413-05	TRIMMING POT.(220)	7010D	
S1			S62-0803-05	SLIDE SWITCH		
D1 -3			ERA15-01	DIODE		
D4			MA110	DIODE		
D5			ERA15-01	DIODE		
D6			MA8082-M	ZENER DIODE		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
D7			MA8110-M	ZENER DIODE		
D9			RD9.1JS(B2)	ZENER DIODE		
D10			MA8068-M	ZENER DIODE		
D11			MA110	DIODE		
D12			MA8062-M	ZENER DIODE		
D13			DA204K	DIODE		
D14			MA110	DIODE		
D15			MA8062-M	ZENER DIODE		
D16 -22			DA204K	DIODE		
D23			MA110	DIODE		
D24			DAP202K	DIODE		
D27 ,28			DAP202K	DIODE		
IC1		*	75116GF-G49-3BE	IC		
IC2			S-80737AN-D1	IC		
IC3			M5278D05	IC(VOLTAGE REGULATOR)		
IC4			M5237ML	IC(VOLTAGE REGULATOR)		
IC5			LC7216M	IC(PLL FREQ. SYNTHESIZER)		
IC6			TDA1579T	IC(DECODER)	7010D	
IC7			NJM4565MD	IC(OP AMP X2)	7010D	
IC10-12			NJM4565MD	IC(OP AMP X2)		
IC14-18			NJM4565MD	IC(OP AMP X2)		
IC19			TC4066BF	IC(BILATERAL SWITCH)		
IC20			NJM4565MD	IC(OP AMP X2)		
IC21			TC9233FK	IC		
IC24,25			M5201FP	IC(OP AMPLIFIER)		
Q1			2SB1050	TRANSISTOR		
Q2			DTC114EK	DIGITAL TRANSISTOR		
Q3			2SB1370F8	TRANSISTOR		
Q4			2SB1277	TRANSISTOR		
Q5			2SA1037K	TRANSISTOR		
Q6			DTA124EK	DIGITAL TRANSISTOR		
Q6		*	XDA124EK	TRANSISTOR		
Q7			DTC114EK	DIGITAL TRANSISTOR		
Q8			2SD1266BD	TRANSISTOR		
Q9			2SC2412K	TRANSISTOR		
Q12			2SB1370F8	TRANSISTOR		
Q13			2SC2412K	TRANSISTOR		
Q16 ,17			2SB1277	TRANSISTOR		
Q21			DTA124EK	DIGITAL TRANSISTOR		
Q21		*	XDA124EK	TRANSISTOR		
Q22			DTC124EK	DIGITAL TRANSISTOR		
Q22		*	XDC124EK	TRANSISTOR		
Q23			DTC144EK	DIGITAL TRANSISTOR		
Q23			XDC144EK	TRANSISTOR		
Q24			DTA124EK	DIGITAL TRANSISTOR		
Q24		*	XDA124EK	TRANSISTOR		
Q25 ,26			DTC144EK	DIGITAL TRANSISTOR		
Q25 ,26			XDC144EK	TRANSISTOR		
Q27			2SB1277	TRANSISTOR		
Q28			DTC124EK	DIGITAL TRANSISTOR		
Q28		*	XDC124EK	TRANSISTOR		
Q29			2SA1362(Y)	TRANSISTOR		
Q30			DTA144EK	DIGITAL TRANSISTOR		
Q31 ,32			2SC2412K	TRANSISTOR		
Q33			DTC124EK	DIGITAL TRANSISTOR		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

× New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
Q33		*	XDC124EK	TRANSISTOR		
Q34			2SC2412K	TRANSISTOR		
Q35			2SK669	FET		
Q36			DTC124EK	DIGITAL TRANSISTOR		
Q36		*	XDC124EK	TRANSISTOR		
Q37			DTA124EK	DIGITAL TRANSISTOR	7010L	
Q37		*	XDA124EK	TRANSISTOR	7010L	
Q38 ,39			2SB1277	TRANSISTOR		
Q40			DTC124EK	DIGITAL TRANSISTOR	7010D	
Q40		*	XDC124EK	TRANSISTOR	7010D	
Q41			DTA124EK	DIGITAL TRANSISTOR		
Q41		*	XDA124EK	TRANSISTOR		
Q42 ,43			2SD1757K	TRANSISTOR		
Q46			DTC124EK	DIGITAL TRANSISTOR		
Q46		*	XDC124EK	TRANSISTOR		
Q47			DTA124EK	DIGITAL TRANSISTOR		
Q47		*	XDA124EK	TRANSISTOR		
Q48			DTC144EK	DIGITAL TRANSISTOR		
Q48			XDC144EK	TRANSISTOR		
Q49			2SC2412K	TRANSISTOR		
Q52 -55			2SC2412K	TRANSISTOR		
CD PLAYER UNIT (X32-2340-00)						
C1			CK73FB1H103K	CHIP C 0.010UF K		
C2			CC73FCH1H220J	CHIP C 22PF J		
C3			CC73FCH1H020C	CHIP C 2.0PF C		
C4			CK73FB1H472K	CHIP C 4700PF K		
C5			CK73FB1E473KTA	CHIP C 0.047UF K		
C6			CC73FCH1H181J	CHIP C 180PF J		
C7			CK73FB1H223KTA	CHIP C 0.022UF K		
C8			CK73FB1E393KTA	CHIP C 0.039UF K		
C9			C92-1025-05	ELECTRO 0.47UF 50WV		
C10 ,11			C92-1020-05	ELECTRO 10UF 6.3WV		
C12			CK73FB1H153K	CHIP C 0.015UF K		
C13			CK73FB1H223KTA	CHIP C 0.022UF K		
C14			C92-1020-05	ELECTRO 10UF 6.3WV		
C15			C92-1026-05	ELECTRO 1UF 50WV		
C16			C92-1023-05	ELECTRO 22UF 4.0WV		
C18			CK73EF1C105Z	CHIP C 1.0UF Z		
C20 ,21			CK73EF1C105Z	CHIP C 1.0UF Z		
C22 ,23			CK73FB1E393KTA	CHIP C 0.039UF K		
C24			CC73FCH1H101J	CHIP C 100PF J		
C25 ,26			CK73FB1H103K	CHIP C 0.010UF K		
C27 ,28			CK73EF1C105Z	CHIP C 1.0UF Z		
C29 ,30			CC73FCH1H330J	CHIP C 33PF J		
C32			CK73EB1E104K	CHIP C 0.10UF K		
C33			CK73EB1E224K	CHIP C 0.22UF K		
C35			CC73FCH1H560J	CHIP C 56PF J		
C38			CK73FB1H102K	CHIP C 1000PF K		
C41			CC73FCH1H220J	CHIP C 22PF J		
C42			CC73FCH1H330J	CHIP C 33PF J		
C45			C92-0012-05	TANTAL 22UF 6.3WV		
C47			C92-1026-05	ELECTRO 1UF 50WV		
C48			C92-1019-05	ELECTRO 4.7UF 16WV		
C49			CK73FB1H183KTA	CHIP C 0.018UF K		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C60 ,61			CK73EB1E104K	CHIP C 0.10UF K		
C66			CK73FB1H102K	CHIP C 1000PF K		
C67			CK73FB1H103K	CHIP C 0.010UF K		
C68			CK73FB1H102K	CHIP C 1000PF K		
C101			CK73FB1H331K	CHIP C 330PF K		
C103			CK73FB1H331K	CHIP C 330PF K		
C105-108			CC73FCH1H181J	CHIP C 180PF J		
C109,110			CK73FB1H471K	CHIP C 470PF K		
C111,112			C92-1019-05	ELECTRO 4.7UF 16WV		
C113,114			C93-1044-05	CERAMIC 2200PF K		
C115,116			C92-1019-05	ELECTRO 4.7UF 16WV		
C117			C92-1020-05	ELECTRO 10UF 6.3WV		
C118,119			CK73EB1E104K	CHIP C 0.10UF K		
C120,121			C93-1044-05	CERAMIC 2200PF K		
C122			CK73EB1E104K	CHIP C 0.10UF K		
C123			CK73FB1E473KTA	CHIP C 0.047UF K		
C126			CK73FB1E473KTA	CHIP C 0.047UF K		
C130			CC73FCH1H101J	CHIP C 100PF J		
C131			CK73FB1E473KTA	CHIP C 0.047UF K		
C132			C92-1020-05	ELECTRO 10UF 6.3WV		
CN1			E40-9251-05	FLAT CABLE CONNCTOR		
CN2			E40-9244-05	FLAT CABLE CONNCTOR		
CN3			E40-5266-05	FLAT CABLE CONNCTOR		
CN4			E40-5294-05	FLAT CABLE CONNCTOR		
CN5			E40-9256-05	FLAT CABLE CONNCTOR		
CN7			E40-9252-05	FLAT CABLE CONNCTOR		
L1			L33-0916-05	SMALL FIXED INDUCTOR		
L2			L40-1001-31	SMALL FIXED INDUCTOR(10UH)		
L3 ,4			L33-0916-05	SMALL FIXED INDUCTOR		
X1			L78-0505-05	RESONATOR		
X2			L77-2011-05	CRYSTAL RESONATOR(16.9344MHZ)		
R1			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R2			RK73EB2B100J	CHIP R 10 J 1/8W		
R3 ,4			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R5			RK73FB2A153J	CHIP R 15K J 1/10W		
R6			RK73FB2A910J	CHIP R 91 J 1/10W		
R7			RK73FB2A241J	CHIP R 240 J 1/10W		
R8			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R9			RK73FB2A134J	CHIP R 130K J 1/10W		
R10			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R11			RK73FB2A123J	CHIP R 12K J 1/10W		
R12			RK73FB2A223J	CHIP R 22K J 1/10W		
R13 ,14			RK73FB2A123J	CHIP R 12K J 1/10W		
R16			RK73FB2A331J	CHIP R 330 J 1/10W		
R17			RK73FB2A223J	CHIP R 22K J 1/10W		
R18			RK73FB2A391J	CHIP R 390 J 1/10W		
R19			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R20			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R21			RK73FB2A125J	CHIP R 1.2M J 1/10W		
R22			RK73FB2A471J	CHIP R 470 J 1/10W		
R23			RK73FB2A103J	CHIP R 10K J 1/10W		
R24 ,25			RK73EB2B222J	CHIP R 2.2K J 1/8W		
R26 ,27			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R28			RK73FB2A333J	CHIP R 33K J 1/10W		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
R29 ,30			RK73FB2A154J	CHIP R 150K J 1/10W		
R33			RK73FB2A473J	CHIP R 47K J 1/10W		
R34			RK73FB2A221J	CHIP R 220 J 1/10W		
R35			RK73EB2B472J	CHIP R 4.7K J 1/8W		
R36			RK73FB2A562J	CHIP R 5.6K J 1/10W		
R37			RK73FB2A474J	CHIP R 470K J 1/10W		
R38			RK73EB2B103J	CHIP R 10K J 1/8W		
R39			RK73FB2A103J	CHIP R 10K J 1/10W		
R40 ,41			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R42			RK73FB2A104J	CHIP R 100K J 1/10W		
R43			RK73FB2A224J	CHIP R 220K J 1/10W		
R44			RK73FB2A822J	CHIP R 8.2K J 1/10W		
R45			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R46			RK73FB2A183J	CHIP R 18K J 1/10W		
R47			RK73FB2A393J	CHIP R 39K J 1/10W		
R48			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R49			RK73FB2A331J	CHIP R 330 J 1/10W		
R50			RK73FB2A473J	CHIP R 47K J 1/10W		
R51			RK73FB2A224J	CHIP R 220K J 1/10W		
R52			RK73FB2A225J	CHIP R 2.2M J 1/10W		
R53			RK73FB2A333J	CHIP R 33K J 1/10W		
R55			RK73FB2A103J	CHIP R 10K J 1/10W		
R57			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R58			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R60			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R61 -63			RK73FB2A103J	CHIP R 10K J 1/10W		
R65			RK73FB2A473J	CHIP R 47K J 1/10W		
R66			RK73FB2A104J	CHIP R 100K J 1/10W		
R67			RK73FB2A273J	CHIP R 27K J 1/10W		
R68			RK73FB2A123J	CHIP R 12K J 1/10W		
R69			RK73FB2A183J	CHIP R 18K J 1/10W		
R70			RK73FB2A473J	CHIP R 47K J 1/10W		
R71			RK73FB2A223J	CHIP R 22K J 1/10W		
R72			RK73FB2A104J	CHIP R 100K J 1/10W		
R73 -76			RK73FB2A223J	CHIP R 22K J 1/10W		
R77			RK73EB2B223J	CHIP R 22K J 1/8W		
R78			RK73FB2A103J	CHIP R 10K J 1/10W		
R79			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R80			RK73EB2B223J	CHIP R 22K J 1/8W		
R81			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R82 -85			RK73FB2A104J	CHIP R 100K J 1/10W		
R86			RK73FB2A184J	CHIP R 180K J 1/10W		
R87			RK73FB2A333J	CHIP R 33K J 1/10W		
R88			RK73EB2B563J	CHIP R 56K J 1/8W		
R89			RK73EB2B683J	CHIP R 68K J 1/8W		
R90			RK73FB2A103J	CHIP R 10K J 1/10W		
R91			RK73FB2A333J	CHIP R 33K J 1/10W		
R92			RK73EB2B683J	CHIP R 68K J 1/8W		
R96 ,97			RK73FB2A223J	CHIP R 22K J 1/10W		
R98			RK73EB2B220J	CHIP R 22 J 1/8W		
R99			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R101-108			R92-2032-05	CHIP R 4.7K D 1/10W		
R109-112			R92-2049-05	CHIP R 8.2K D 1/10W		
R113,114			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R115,116			RK73FB2A272J	CHIP R 2.7K J 1/10W		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
R117,118			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R121,122			RK73FB2A681J	CHIP R 680 J 1/10W		
R123,124			RK73FB2A223J	CHIP R 22K J 1/10W		
R125,126			RK73FB2A103J	CHIP R 10K J 1/10W		
R127			RK73FB2A561J	CHIP R 560 J 1/10W		
R128			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R151			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R153			RK73FB2A682J	CHIP R 6.8K J 1/10W		
R154			RK73FB2A225J	CHIP R 2.2M J 1/10W		
R156			RK73FB2A221J	CHIP R 220 J 1/10W		
R157			RK73FB2A154J	CHIP R 150K J 1/10W		
R160			RK73FB2A104J	CHIP R 100K J 1/10W		
R161			RK73FB2A103J	CHIP R 10K J 1/10W		
R162			RK73FB2A125J	CHIP R 1.2M J 1/10W		
VR1			R12-6421-05	TRIM P0T 4.7K		
VR2			R12-6429-05	TRIMMING P0T.(100K)		
W1 -7			R92-2052-05	CHIP R 0 J 1/10W		
W9 ,10			R92-2052-05	CHIP R 0 J 1/10W		
W11 -25			R92-2053-05	CHIP R 0 J 1/8W		
W31 -34			R92-2052-05	CHIP R 0 J 1/10W		
W50			R92-2052-05	CHIP R 0 J 1/10W		
D1			MA110	DI0DE		
D2			MA8062	ZENER DI0DE		
D3			MA110	DI0DE		
D4			MA8091	ZENER DI0DE		
D6 -13			MA110	DI0DE		
IC1			TA8191F	IC(RF AMP , SERV0)		
IC2			TC9236AF	IC(SIGNAL PR0CESS0R)		
IC3			AN8388SR	IC(M0T0R DRIVER)		
IC5			TA7291F	IC(L0ADING)		
IC6			75008GB-696-3B4	IC(MECHANISM MICR0C0MPUTER)		
IC7		*	SM5871AS	IC(D/A C0NVERTER x8 0VER SAM)		
IC8 ,9			NJM5532MD	IC(0P AMP)		
IC11			TA78L05F	IC(5V V0LTAGE REGULAT0R)		
IC12			TC7SU04F	IC(INVERTER)		
IC13			TC74AC04F	IC(INVERTER)		
IC16			TC7SU04F	IC(INVERTER)		
IC17			TC74AC04F	IC(INVERTER)		
Q1			2SB624(BV3)	TRANSIST0R		
Q2			2SA1037K	TRANSIST0R		
Q3			DTC124EK	DIGITAL TRANSIST0R		
Q4			2SC2412K	TRANSIST0R		
Q5			DTA124EK	DIGITAL TRANSIST0R		
Q7 ,8			DTC114YK	DIGITAL TRANSIST0R		
Q9			2SA1037K	TRANSIST0R		
Q10			2SC2412K	TRANSIST0R		
Q11			DTC114YK	DIGITAL TRANSIST0R		
Q12			DTC124EK	DIGITAL TRANSIST0R		
Q13		*	2SA1362(Y)	TRANSIST0R		
Q14			2SD1624	TRANSIST0R		
Q15			DTA124EK	DIGITAL TRANSIST0R		
Q16 ,17			2SD1757K	TRANSIST0R		
Q18 -20			DTC124EK	DIGITAL TRANSIST0R		
TH1			NT732BTD33K	THERMIST0R		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
POWER AMPLIFIER UNIT (X85-3000-10)						
C1 ,2			C90-2552-05	ELECTRO 47UF 16WV		
C5 ,6			C90-2564-05	ELECTRO 100UF 16WV		
C7 -10			CK73FB1E473KTA	CHIP C 0.047UF K		
C11 ,12			C90-2564-05	ELECTRO 100UF 16WV		
C15 ,16			C90-2564-05	ELECTRO 100UF 16WV		
C17 -20			CK73EB1H104K	CHIP C 0.10UF K		
C21 -24			CK73FB1H102K	CHIP C 1000PF K		
CN1		*	E40-9277-05	PIN ASSY		
W1 -8			E31-5000-05	JUMPER WIRE		
401	2F	*	F01-1417-03	HEAT SINK		
N	2F		N89-3006-46	BINDING HEAD TAPTITE SCREW		
P	2F		N83-3008-45	PAN HEAD TAPTITE SCREW		
R1 -4			RK73FB2A201J	CHIP R 200 J 1/10W		
R5 -8			RK73FB2A331J	CHIP R 330 J 1/10W		
R9 -12			RK73EB2B2R2J	CHIP R 2.2 J 1/8W		
R13 -16			RK73FB2A681J	CHIP R 680 J 1/10W		
W12 -15			R92-2053-05	CHIP R 0 J 1/8W		
W16			R92-2052-05	CHIP R 0 J 1/10W		
IC1 ,2			AN7174K	IC(AF AMP)		
TUNER UNIT (X86-3012-XX) -71 : KDC-7010D, -72 : KDC-7010L						
C1			CK73FB1H223KTA	CHIP C 0.022UF K		
C2			CK73EB1E104K	CHIP C 0.10UF K		
C3 -5			CK73FB1H223KTA	CHIP C 0.022UF K		
C6			CK73FB1H472K	CHIP C 4700PF K		
C7			CK73FB1H223KTA	CHIP C 0.022UF K		
C8			CK73EB1H472K	CHIP C 4700PF K		
C9			CK73FB1H223KTA	CHIP C 0.022UF K		
C10			CK73EB1E104K	CHIP C 0.10UF K		
C11			CK73EB1H103K	CHIP C 0.01UF K		
C12			CE04NW1H010M	ELECTOR 1.0UF 50WV		
C13			C92-0004-05	ELECTRO 1.0UF 16WV		
C14			CK73EB1H333K	CHIP C 0.033UF K		
C15			C92-0002-05	CHIP TAN 0.22UF 35WV		
C16			CE04NW1C100M	ELECTRO 10UF 16WV		
C17			CK73FB1H561K	CHIP C 560PF K		
C18			CK73FB1H102K	CHIP C 1000PF K		
C19			CK73EB1E104K	CHIP C 0.10UF K		
C20			C92-0004-05	ELECTRO 1.0UF 16WV		
C21			C92-0003-05	CHIP TAN 0.47UF 25WV		
C22			CK73EB1H473K	CHIP C 0.047UF K		
C23 ,24			CK73FB1H223KTA	CHIP C 0.022UF K		
C25			CK73FB1H222K	CHIP C 2200PF K		
C26			CE04NW1C100M	ELECTRO 10UF 16WV		
C27 ,28			CK73EB1H473K	CHIP C 0.047UF K		
C29			CK73EB1E104K	CHIP C 0.10UF K		
C30			CK73FB1H221K	CHIP C 220PF K		
C31			C92-0004-05	ELECTRO 1.0UF 16WV		
C32			CE04NW1A101M	ELECTRO 100UF 10WV		
C33			CK73FB1H223KTA	CHIP C 0.022UF K		
C34			CC73FCH1H220J	CHIP C 22PF J		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

× New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C35			CK73EB1E104K	CHIP C 0.10UF K		
C36			C92-0514-05	CHIP TAN 2.2UF 10WV		
C37			C92-0001-05	CHIP TAN 0.1UF 35WV		
C38			CK73EB1E104K	CHIP C 0.10UF K		
C39			CK73FB1H561K	CHIP C 560PF K		
CN1			E40-3391-05	PIN ASSY		
CN2			E40-3394-05	PIN ASSY		
TP1			E40-3445-15	SOCKET FOR PIN ASSY		
CF1 ,2			L72-0716-05	CERAMIC FILTER		
L1			L40-2291-31	SMALL FIXED INDUCTOR(2.2UH)		
T1			L30-0715-05	FM IFT		
X1			L78-0506-05	RESONATOR		
R1			RK73EB2B100J	CHIP R 10 J 1/8W		
R2			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R3			RK73FB2A223J	CHIP R 22K J 1/10W		
R4			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R5			RK73EB2B100J	CHIP R 10 J 1/8W		
R6			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R7			RK73FB2A561J	CHIP R 560 J 1/10W		
R8			RK73FB2A331J	CHIP R 330 J 1/10W		
R9			RK73FB2A270J	CHIP R 27 J 1/10W		
R10			RK73FB2A271J	CHIP R 270 J 1/10W		
R11			RK73FB2A331J	CHIP R 330 J 1/10W		
R12 ,13			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R14			RK73FB2A682J	CHIP R 6.8K J 1/10W		
R15 ,16			RK73FB2A103J	CHIP R 10K J 1/10W		
R17			RK73FB2A223J	CHIP R 22K J 1/10W		
R18 ,19			RK73FB2A683J	CHIP R 68K J 1/10W		
R20			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R21 ,22			RK73FB2A103J	CHIP R 10K J 1/10W		
R23			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R24			RK73FB2A103J	CHIP R 10K J 1/10W		
R25			RK73FB2A104J	CHIP R 100K J 1/10W		
R26			RK73FB2A223J	CHIP R 22K J 1/10W		
R27			RK73FB2A100J	CHIP R 10 J 1/10W		
R28			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R29			RK73FB2A751J	CHIP R 750 J 1/10W		
R30			RK73FB2A133J	CHIP R 13K J 1/10W		
R31			RK73FB2A103J	CHIP R 10K J 1/10W		
VR1 ,2			R12-3685-05	TRIMMING POT.(10K)		
VR3			R12-3127-05	TRIMMING POT.(10K)		
W1 -3			R92-2053-05	CHIP R 0 J 1/8W		
D1			MA110	DIODE		
IC1			TA2027F1	IC		
Q1			DTC124EK	DIGITAL TRANSISTOR		
Q1		*	XDC124EK	TRANSISTOR		
Q2			2SC2413K	TRANSISTOR		
Q3			DTC124EK	DIGITAL TRANSISTOR		
Q3		*	XDC124EK	TRANSISTOR		
Q4			DTA124EK	DIGITAL TRANSISTOR		
Q4		*	XDA124EK	TRANSISTOR		
Q5			2SC2412K	TRANSISTOR		
TU1	2F	*	W02-1390-05	FM/AM FRONT-END	7010D	
TU1	2F	*	W02-1391-05	FM/AM FRONT-END	7010L	

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

7010D : KDC-7010D
7010L : KDC-7010L

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
MECHANISM ASS'Y (X92-1660-06)						
1	3A		A10-2122-32	CHASSIS CALKING ASSY		
2	3D		A10-2124-63	CHASSIS ASSY		
3	1C		A10-2198-02	CHASSIS		
6	2B		D10-2693-24	LEVER		
7	2B, 3B		D10-2695-14	LEVER		
8	2A		D10-2696-23	LEVER		
9	2A		D10-2697-24	LEVER		
10	2A		D10-2698-34	ARM ASSY		
12	2D		D10-2700-04	ROD		
13	2D		D10-2701-04	ROD		
14	2C		D10-2702-34	LEVER ASSY		
16	1C		D10-2787-03	LEVER		
18	2A		D10-2716-23	LEVER ASSY		
20	3B		D12-0604-23	CAM		
21	2B		D12-0605-33	CAM		
22	2C		D13-1029-24	GEAR		
23	2C		D13-1030-24	GEAR		
24	2B		D19-0605-14	CLUTCH ASSY		
25	2A		D13-1040-04	GEAR		
26	2B		D13-1042-44	GEAR		
27	2B		D13-1043-14	GEAR		
28	2B		D13-1044-24	GEAR		
29	3A	*	D13-1083-04	WORM		
30	2A	*	D13-1084-04	GEAR		
31	1A		D13-1085-24	GEAR		
32	2A	*	D13-1086-03	LACK (GEAR)		
33	2B	*	D14-0622-04	ROLLER ASSY		
34	1A		D14-0633-04	ROLLER		
35	2A		D14-0624-13	ROLLER		
36	2D		D21-2109-14	SHAFT ASSY		
37	3A		D21-2111-44	SHAFT ASSY		
38	1A		D23-0905-24	RETAINER		
39	3A		D23-0910-14	RETAINER		
40	3C, 3D		D39-0212-03	DAMPER		
41	2C		F20-1708-14	INSULATING SHEET		
42	2A		G01-2584-04	EXTENSION SPRING		
43	2C		G01-2585-04	EXTENSION SPRING		
46	1C		G01-2588-04	EXTENSION SPRING		
47	2B		G01-2590-04	EXTENSION SPRING		
48	3A		G01-2591-14	EXTENSION SPRING		
49	3A		G01-2605-04	EXTENSION SPRING		
50	1C		G01-2630-04	TORSION COIL SPRING		
51	2D		G02-1136-14	FLAT SPRING		
52	2C		G02-1138-04	FLAT SPRING		
53	2C		G02-1139-14	FLAT SPRING		
54	2D		G02-1140-03	FLAT SPRING ASSY		
55	1C	*	G02-1159-04	FLAT SPRING		
55A	1C	*	G02-1160-04	FLAT SPRING		
56	2A		G02-1156-04	FLAT SPRING		
57	3A		G02-1157-04	FLAT SPRING		
-			H25-1103-04	PROTECTION BAG (200X250X0.05)		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
58	2C	*	J11-0603-13	CLAMPER		
59	2C		J12-0662-04	PIN		
60	3B		J12-0663-04	PIN		
62	3C,3D		J19-4411-14	HOLDER		
63	1A		J19-4412-03	HOLDER		
64	2B		J21-7268-24	MOUNTING HARDWARE ASSY		
65	3A		J21-7270-03	MOUNTING HARDWARE		
66	2A		J21-7271-14	MOUNTING HARDWARE ASSY		
69	2C		J30-1014-14	SPACER		
FPC1	2C		J84-0021-03	FLEXIBLE PRINTED WIRING BOARD		
FPC4	3B		J84-0028-03	FLEXIBLE PRINTED WIRING BOARD		
A	1C,1D		N39-2025-46	PAN HEAD MACHIN SCREW		
B	2C,3A		N09-4023-05	MACHINE SCREW (M2X3)		
C	2D		N39-1728-46	PAN HEAD MACHIN SCREW		
D	2C		N80-2006-46	PAN HEAD TAPTITE SCREW		
E	3C,3D		N09-4086-05	TAPTITE SCREW (2X 8,B TITE)		
F	2A,2B		N19-2022-04	FLAT WASHER		
G	1A		N19-2023-04	FLAT WASHER		
H	2C		N39-1722-45	PAN HEAD MACHIN SCREW		
J	3C		N09-4046-05	TAPTITE SCREW (2X8,P TITE)		
S1	2C		S40-1112-05	PUSH SWITCH		
M1	2C		T42-0704-15	DC MOTOR		
M2	2C		T42-0718-05	MOTOR ASSY		
M3	2A		T42-0721-05	DC MOTOR		
PU1	2D		T25-0202-15	OPTICAL PICKUP HEAD		

E: Europe **W**: Without Europe **P**: Canada **X**: Australia
K: U.S.A. and Canada **M**: Without Europe, U.S.A. and Canada

⚠ indicates safety critical components.

KDC-7010D/L

SPECIFICATIONS

Disc section

Laser diode ..... GaAlAs (λ=780nm)
Digital filter ..... 8 times over sampling
D/A converter ..... 1 bit (with D.P.A.C.)
Spindle speed ..... 500rpm ~ 200rpm (CLV)
Wow & Flutter ..... Below measurable limit
Frequency response ..... 10Hz ~ 20kHz (±1dB)
Total harmonic distortion ..... 0.01% (at 1kHz)
Signal to noise ratio 93dB
Dynamic range 96dB
Channel separation 85dB

FM tuner section

Frequency range ..... 87.5MHz ~ 108.0MHz
Channel space 50kHz
Usable sensitivity ..... 12dBf (1.1μV / 75Ω)
50dB quieting sensitivity ..... 15.2dBf (1.6μV / 75Ω)
Frequency response ..... 30Hz ~ 15kHz (±1dB)
Signal to noise ratio 73dB
Selectivity 70dB
Capture ratio 1.5dB
Stereo separation ..... 40dB (at 1kHz)

MW tuner section

Frequency range ..... 531kHz ~ 1611kHz
Channel space 9kHz
Usable sensitivity 27dBμ

LW tuner section (KDC-7010L)

Frequency range ..... 153kHz ~ 281kHz

Audio section

Max power output ..... 25W x 2 / 9W x 4
Power output ..... 15W x 2 / 6W x 4
..... (4Ω, 30Hz ~ 20kHz, 1%THD)
Tone action
Bass ..... ±8dB (100Hz)
Treble ..... ±8dB (10kHz)
Pre-out level 0.8V (10kΩ)

General

Operating voltage ..... 14.4V (11 ~ 16)
Current consumption 5.0A
Operating temperature ..... –10°C ~ 50°C
Installation size (W x H x D)
..... 182 x 52 x 163 (mm)
Weight 1.8kg (4.0LBs)

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION
Alive Mitake, 2-5, 1-chome Shibuya, Shibuya-ku, Tokyo 150, Japan
KENWOOD U.S.A. CORPORATION
CONSUMER ELECTRONICS GROUP
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90810, U.S.A.
550 Clark Drive, Mount Olive, New Jersey 07828, U.S.A.
99-994 Iwaena St. Aiea, Hawaii 96701
KENWOOD ELECTRONICS CANADA INC.
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8
KENWOOD ELECTRONICS LATIN AMERICA S.A.
P.O. BOX 55-2791, Piso 6 Plaza Chase, Cl. 47 y Aquilino de la Guardia, Panama, Republic de Panama
TRIO-KENWOOD U.K. LIMITED
KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB United Kingdom
KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium
KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, Germany
TRIO-KENWOOD FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France
KENWOOD LINEAR S.p.A.
20125, Milano-via Arbe, 50, Italy
KENWOOD ESPAÑA S.A.
Bolivia, 239-08020 Barcelona, Spain
KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (A.C.N. 001 499 074)
P.O. BOX 504, 8 Figtreel Drive, Australia Centre, Homebush, N.S.W. 2140, Australia
KENWOOD & LEE ELECTRONICS, LTD.
Unit 3712-3724, Level 37 Tower 1, Metroplaza, 223 Hing Fong Road, Kwai Fong N.T. Hong Kong
KENWOOD ELECTRONICS SINGAPORE PTE LTD.
No. 1 Genting Lane #07-00, Singapore, 1334